MINISTRY OF HIGHER EDUCATION, SCIENCE AND INNOVATION OF THE REPUBLIC OF UZBEKISTAN

MINISTRY OF HEALTH OF THE REPUBLIC OF UZBEKISTAN

TASHKENT STATE MEDICAL UNIVERSITY

Ikramov G. A., Khalmanov B. A.

Field of Knowledge - Social Security and Healthcare - 900000

Education - Healthcare – 910000

Field of Study Dentistry - 60910100

Pediatric surgical dentistry

on the subject

"CONGENITAL FACIAL MALFORMATIONS"

study guide

TASHKENT - 2025

CONTENTS

LIST OF TERMS AND ABBREVIATIONS:

CHLO - maxillofacial region.
VRGN - congenital cleft lip and palate
VRN - congenital cleft palate
VG - congenital cleft lip.
CL/P - Cleftlip/palate - congenital cleft lip/palate
Cheiloplasty - upper lip plasty
Uranoplasty - the simultaneous plasty of the soft and hard palate
Cycloplasty - when uranoplasty is divided into two stages: Stage I - plastic surgery in the soft palate

INTRODUCTION

"Our rapidly changing time, life itself sets before us ever new, extremely important and urgent tasks in the field of educating a new generation," said I. A. Karimov in his speech (December 8, 2013. Solemn meeting dedicated to the Constitution Day of the Republic of Uzbekistan).

The declaration by the head of our state, I. A. Karimov, of 2014 as the Year of a Healthy Child will continue and bring to a new level the work on raising a comprehensively developed healthy generation, including children in need of medical and social rehabilitation.

The term "congenital anomaly" refers to structural, metabolic, and functional disorders occurring within the uterus in an organ, part of an organ, or a large part of the body. The term "congenital cleft lip and palate" includes structural defects of the maxillofacial region with varying degrees of manifestation, frequency, and character.

Congenital cleft lip and palate (CCLP), in combination with other defects, is one of the causes of perinatal mortality and occupies the first place in the structure of morbidity and disability of children and represents not only a medical, but also an important social problem.

According to many authors, the number of children with this pathology is constantly growing, and in the next decade the frequency of such cases will be 2 times higher than 100 years ago.

The US National Dental Institute has released data showing that approximately 40% of the world's population has congenital developmental anomalies in the skull and facial area. Of these, 15% require serious multi-stage surgical treatment. According to the USBC (United States Bureau of the Census), the average birth rate of children with congenital maxillofacial anomalies worldwide is 1:600, or every 2.5 minutes a child with this pathology is born.

In the Russian Federation, the birth rate of children with this pathology is 34% of all types of congenital malformations. Every year, 3,500 children are born with facial and skull injuries in the Russian Federation.

It is well known that in the first half of pregnancy, specifically from the 4th week, the influence of negative factors can lead to the formation of various developmental defects, including congenital cleft lip and palate.

It is known that aggravated heredity leads to defect in 13.6% of cases, and viral diseases (rubella, toxoplasmosis, etc.) - in 11.3%.

Rare factors include parental age, chronic or acute poisoning with toxic substances and medications, ionizing radiation, X-rays, improper nutrition, vitamin deficiencies, and stressful situations. In addition to the listed factors, smoking, drug use, and alcohol consumption play a significant role in the development of the defect.

To date, it has been reliably proven that only 20% of developmental defects are caused by gene mutations, 10% by chromosomal changes, and the remaining 70% by exogenous factors. Based on this, congenital cleft lip and palate can be considered figuratively as an indicator of the influence of mutagenic and teratogenic environmental factors.

LTTD is the most common developmental defect in humans and is accompanied by severe anatomical and functional disorders from the first day of life. A congenital defect of the upper lip and palate puts the child in an unfavorable living environment compared to healthy peers. The severe medical and social adaptation of a child with such a pathology can be explained not only by a cosmetic defect, but also by defects in vital functions - respiration, suction, swallowing, and later speech and hearing.

The problem of rehabilitation of children with congenital cleft lip and palate remains relevant and complex. The very fact that a child is born with visible developmental disorders is a serious socio-psychological trauma for parents and the child themselves. This is especially evident in cases where rehabilitation measures are completed late, with the development of secondary defects.

Therefore, the improvement of medical rehabilitation of children with congenital cleft lip and palate is relevant and necessary. Complete medical, psychological, and social adaptation of the child, the formation of a full-fledged

personality, is directly related to anatomical, functional, and cosmetic disorders, as well as the timely implementation of rehabilitation measures.

Providing qualified care to this complex group of patients requires multi-stage emergency interventions and constant monitoring by orthopedists, pediatricians, speech therapists, and other specialists.

The most pressing issue in solving the problem of rehabilitation of this contingent of patients today is the creation of a concept for providing assistance to these patients, since this assistance includes a number of specialized organizational, medical-technical, and social aspects.

Working with children in specialized centers, the experience of large foreign clinics, and our data show that only comprehensive, planned specialized treatment of patients with congenital malformations can ensure optimal results of rehabilitation of such children.

This book reflects the issues of etiology and epidemiology of congenital cleft lip and palate, the provision of specialized care to such patients in a specialized center, and the development of specific programs for the complex treatment of children with such pathology with the participation of all interested specialists.

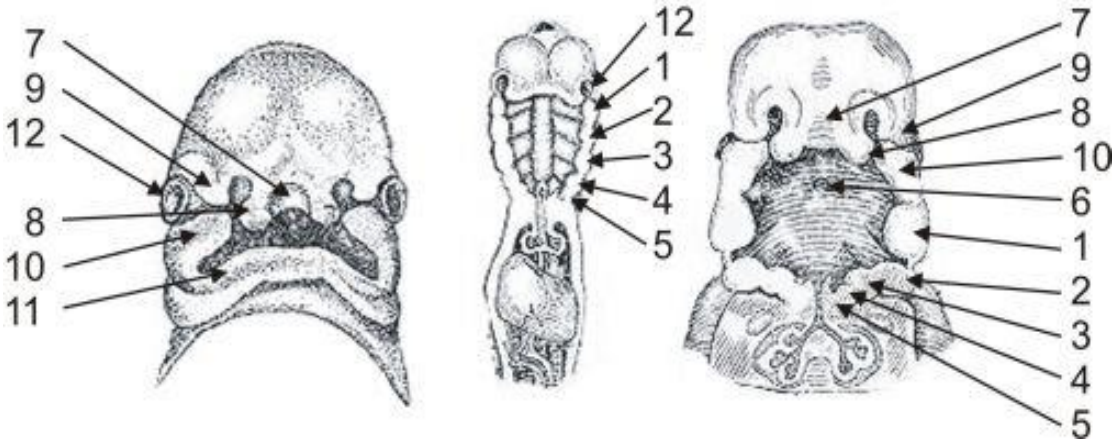
CHAPTER 1. DEVELOPMENT OF THE JAW-FACE AREA.
1.1. SOURCES FOR THE DEVELOPMENT OF THE JAW-FACE AREA

Table 1.

Maxillary processes mandible, lower lip	Maxillary processes mandible, lower lip
Superior part of nasal bridge of frontal process	Superior part of nasal bridge of frontal process
Maxillary processes maxilla; palate, except for the incisive part; lacrimal-nasal canal (along with the lateral nasal process)	Maxillary processes maxilla; palate, except for the incisive part; lacrimal-nasal canal (along with the lateral nasal process)
Lateral nasal appendages wings of nose	Lateral nasal appendages wings of nose
Medial nasal processes nasal wall cutting part of hard palate, middle part of lip, nose	Medial nasal processes nasal wall cutting part of hard palate, middle part of lip, nose

(2-3 weeks). Formation of primary colostrum (Table 1). At the anterior end of the fetus, from the ectoderm, a fossa - the oral cavity (stomdeum) - is formed, which deepens further until it meets the endoderm (primary gut), separated by the pharyngeal membrane. At the 3rd week, the pharyngeal membrane ruptures, and a primary mouth is formed, connected to the primary intestine. Shortly before this, the Ratke's pouch - the dorsal process of the ectoderm - is formed in the upper part of the primary mouth - in the anterior and middle lobes of the pituitary gland (diagram 1, 2).

Diagram 1. Primary mouth formation

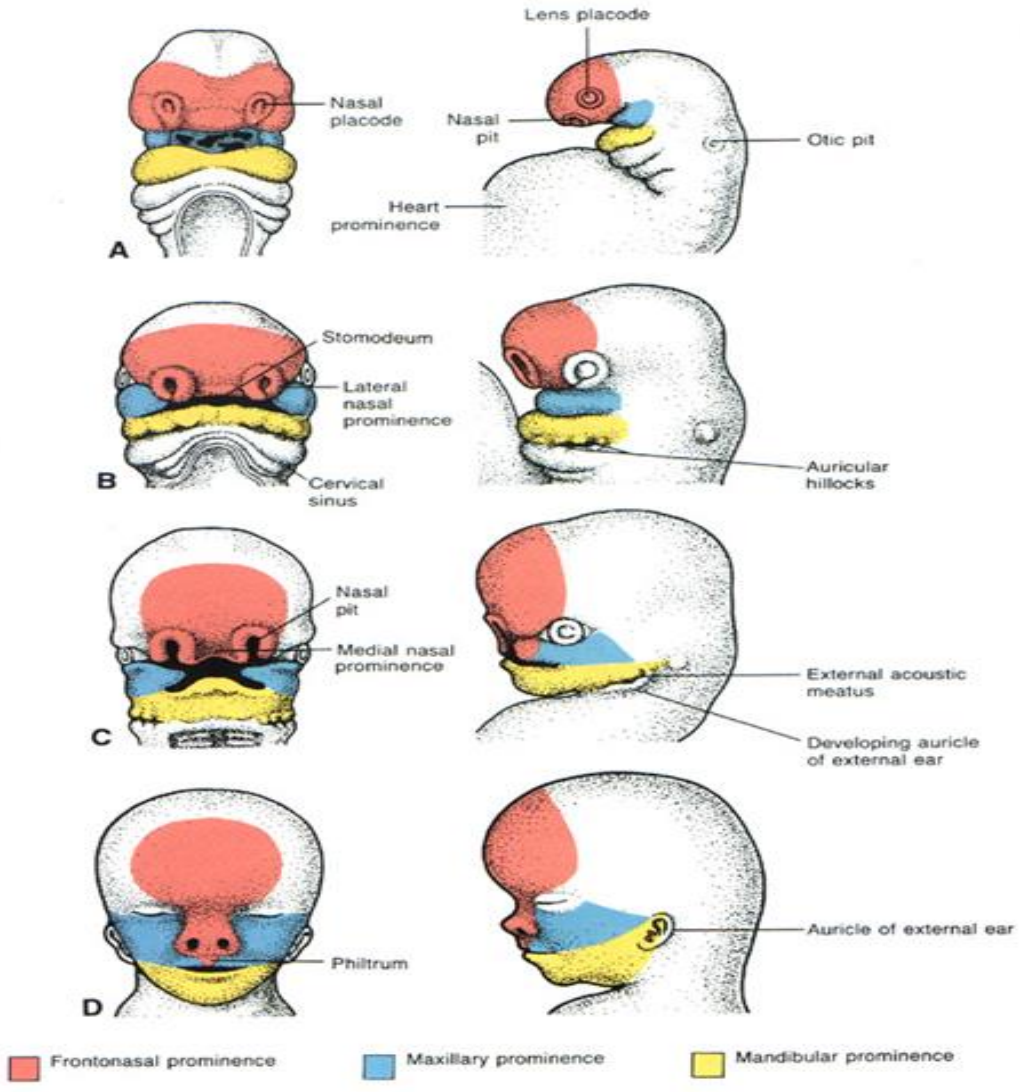


1 - first gill arch
2 - second gill arch
3 - third gill arch
4 - fourth gill arch
5 – fifth gill arch
6 - Ratke pocket
7 - frontal process
8 - middle nasal process
9 – lateral nasal process
10 - maxillary process
11 - mandibular process
12 - eye

(4-5 weeks). Formation of the maxillary and mandibular processes (4th week). The oral fossa is bordered laterally by the derivatives of the 1st glenoid arch, which on each side is divided into the maxillary and mandibular processes (inferior jaw, maxilla, palate, except for the incisive part, laterally along with the nasal process, the mucous-nasal canal).

Frontal process. The oral fossa is bordered superiorly by the unpaired frontal process (upper part of the nasal bridge).

Diagram 2. Facial development.



(Week 6). Formation of nasal processes and nasal sinuses. From the lateral sides of the frontal process, nasal protrusions are formed, the central part of which deepens and forms nasal sinuses, from the lateral sides of these sinuses - the

middle (medial) and lateral (lateral) nasal processes, between which, as already noted, there are nasal sinuses. The nasal sinuses gradually deepen, grow backward and downward, and reach the surface of the frontal process, forming the primary roof of the mouth (6-7 weeks). At this point, the nasal sinuses are pierced and connected to the primary oral cavity; the resulting internal opening is called the primary choan. The maxillary processes are separated from the lateral processes of the nose by a fissure connecting the orbitals with the nasal sinuses (the lacrimal-nasal canal).

(Week 4). Lower jaw. The paired mandibular processes grow to form the mandible and the corresponding part of the face, including the lower lip.

(6-8 weeks). The incisal part of the upper jaw, nose, and hard palate. The upper jaw develops from the maxillary processes, including the corresponding areas of the palate and face, as well as the lateral sections of the upper lip. The maxillary processes do not fuse; between them, along the midline, the medial nasal process is formed, and from above, the lateral nasal process grows. The middle nasal process leads to the formation of the nasal wall, the cutting part of the hard palate, and the middle part of the lip. Combining with the maxillary processes, it connects the oral vestibule from above. The nasal septum is the fused middle processes of the nose. The wing of the nose is the lateral process of the nose. The upper part of the nasal bridge is formed by the frontal process (Fig. 1).

(8-9 weeks). Formation of the palate. On the inner surface of the maxillary process, a roller grows in the direction of the middle plane and is called the **palatine plate** (process). First, there is a fissure between the right and left palatine plates, then they merge to form the palate, which separates the primary oral cavity into the nasal cavity and the oral cavity.

Lacrimal nasal canal. The upper edge of the maxillary process joins the lower edge of the lateral nasal process, as a result of which the groove connecting the orbit with the nasal fossa connects to the lacrimal nasal canal.

1.2. DEVELOPMENTAL DEFECTS OF THE FACE AND NECK.

The formation of the face begins in the early stages of embryogenesis. However, at 2-3 weeks of embryogenesis, due to disorders of the gill arches, the neurocranial head, and the anterior part of the secondary intestine, defects in its development may occur.

The main structures of the visceral part of the head develop from the gill arches. Thus, five processes are formed from the first gill arch: the frontal and two pairs of the upper and lower jaws.

In the frontal process, splitting into the middle and lateral nasal processes occurs during the 3rd week of embryogenesis. They form the forehead, eye socket, nose and middle parts of the upper jaw and upper lip. The fusion of the mandibular processes occurs at the end of the fourth week, the fusion of the maxillary processes - at the sixth week, the fusion of the maxillary processes with the frontal process and the formation of the lips - at the 7th week. The formation of the permanent palate is completed in the 8th week.

Tooth buds sequentially pass through the stages of the calyx, enamel organ, and dental papilla, appearing at the 5th week of embryogenesis.

The tongue is formed by paired lateral indentations in the mandibular arch at the 6th week. The 1st and 2nd gill arches participate in the formation of the auricle.

According to dental observations, the frequency of facial and neck developmental defects, their combination with other developmental defects in the human body varies within a wide range from 10% to 50%. Some defects manifest with cosmetic defects (labial cleftness), others may be almost imperceptible (epicanthus - a slight swelling of the skull). Sometimes, they lead to severe deformities in the facial bones, requiring multiple emergency interventions.

In cleft lip, the teratogenic termination period (TTD) is determined by the end of the 7th week of fetal development, and in cleft palate - by the end of the 8th week. The approximate frequency of cleft palate and lips is determined by 1 case per 1000 births. Cleft palate and lips are formed as a result of disruption of the fusion of embryonic structures or cessation of their development.

Cleft lip is the most common pathology (cheyloschiz), can be unilateral or bilateral, complete, partial, subcutaneous or submucosal. These clefts can be combined with the absence of hard palate formation. In the upper lip cartilage, deformation of the tip of the nose or its wing may be present.

Middle (pre-palate) gland of the upper lip is a rare anomaly, may be isolated or accompanied by diastema, maxillofacial dysostosis, duplication of stapes, alveolar process cleftness.

Cleft palate (palatoschisis) can be complete (a cleft in the soft and hard palate), partial (only in the soft and hard palate), intermediate, unilateral or bilateral, transitional or submucosal.

Yuqori lab va tanglayning o'tuvchi kemirtigi (хейлогнатопалатосхиз) – lab, alveolyar o'siq va tanglay yorig'i, bir- va ikki tomonlama bo'lishi mumkin. O'tuvchi kemirtiklarda burun va og'iz bo'shliqlari o'rtasida keng bog'liqlik mavjud, bu so'rish, yutish va keyinchalik nutqada katta qiyinchiliklar olib keladi.

Microscopes of cleft lip and palate. These include only latent and open cleft lip, diastema, cleft lip red border, and deformation of the nasal wing without cleft lip.

Middle gyrus of the lower lip and lower jaw. A very rare defect. TTD - up to 5 weeks of embryogenesis. Full and partial forms are encountered. In its full form, the alveolar process and the body of the mandible are connected by connective tissue. In this case, the tip of the tongue can connect to the mandible. Cases of simultaneous occurrence of the upper, lower lip, and middle mandibular gyrus are known.

Two lips - a layer of mucous membrane parallel to the red border of the upper lip, resembling an extra lip. It is very common and mainly occurs in men.

Crest of the face (crested coloboma). Nosoglossal and oroglossal forms are distinguished. Both forms in a number of cases spread to the frontal and temporal regions, can be complete or partial. Oral-ocular cleftness can occur 2 times more often than nasal-ocular cleftness and is often combined with other defects: cleft lip and palate, brain hernias, hydrocephalus, hypertelorism (increased distance

between eye sockets), microphthalmos, deformation of the palms and toes. In a complete defect, the prognosis is negative. Such children usually die in the perinatal period. Treatment is surgical.

Anomaly of the middle facial crest (frontonasal dysplasia, nasal crest, two noses) is a longitudinal defect of the posterior wall of the nose, completely or completely covered with skin, sometimes extending to the alveolar process and forehead. The defect is accompanied by hypertelorism, a wide root of the nose, and in some cases, an anterior cerebral hernia. In rare cases, epicanthesis (frontal bone swelling), wedge-shaped hair growth in the frontal region, and microphthalmia are observed. There are 3 forms of the middle rod:

1 - latent rod: the tip of the nose is split in two;

2 - open cartilage of the tip and dorsum of the nose;

3 - Absolute cartilage of the cartilage and soft tissues of the nasal bone with deformity of the orbit. Often, such forms do not have a nose wing. Sometimes a complete bifurcation of the nose is observed.

Most such defects are rare cases with a frequency of 1:80000, 1:100000 births. These defects are based on the developmental delay of the ventral sections of the 1st gills, particularly the nasal capsule. TTD - up to 6 weeks. Life expectancy varies - frontal 3rd degree nasal dysplasia is negative, 1st and 2nd degree defects require surgical correction.

Macrostomy - excessive enlargement of the oral cavity. This defect is associated with the non-union of the tissues of the upper and lower parts of the cheek and the edges of the lips. They can be unilateral or bilateral, and the 1st and 2nd gill arches are characteristic of anomalies. Frequency 1:80000 births.

Microstomy - a narrowing of the oral fissure, usually accompanied by severe defects of the 1st gills. Very rarely occurs as an independent developmental defect.

The lower lip opening is usually paired, located on the red border of the lip on both sides of the midline. Accessory mucus manifests as the flow of glands. The defect is rare, hereditary, dominant, and often combines with popliteal pterygium.

Short stapes of the upper lip. Insufficient attachment of the stapes of the upper lip to the base of the interdental papilla in central cutters. Such a staple limits the excitability of the lips. Often combines with central diastema. It is common and requires surgery at the age of 3.

Additional nose or proboscis - aplasia of the nasal half, accompanied by an asymmetrically located proboscis. In mild forms, a tube-like growth is present, located in the root of the nose. In severe cases, a closed-end, skin-tubular formation is present in place of the nose. Its cavity is covered with a mucous membrane. In cyclopia, the base of the proboscis is located above the single ocular cleft located in the middle. Frequency 1:37000 births. The laterally located proboscis is accompanied by aplasia of the corresponding nasal half, and sometimes by microphthalmos and cystic degeneration of the optic nerve.

Congenital absence of the nasal half (aplasia of the nasal wing and lateral surface within the cartilaginous region) is usually accompanied by atresia of the bone opening leading from this side into the nasal cavity. The other half of the nose is usually hypoplastic.

Coloboma of the wings of the nose is a transverse, shallow unilateral or bilateral cleft on the free side of the wing of the nose.

Choanal atresia (absence or narrowing of the posterior nostrils). It can be complete or partial, unilateral or bilateral, membranous or bony. Bilateral choanal atresia makes breathing impaired and breastfeeding impossible. Treatment is surgical.

Curvature of the nasal wall is a common defect associated with the dominant inheritance of nasal deformity, sometimes having diagnostic value in many syndromes. Down syndrome has a characteristic saddle-shaped nose. A protruding bridge of nose is characteristic of Edwards syndrome. Elevated nose with protruding nasal cavity is observed in de Lange syndrome, and so on.

Hyperthelorism - an increase in the distance between the inner edges of the eye sockets. The inverse ratio of this indicator is characteristic of hypotherism. There is a rule for determining the interorbital circle index (ODI), which normally

equals 6.8. ODI in cm is determined by dividing the distance between orbits at the level of the inner corner of the orbit by the head circumference and multiplying by 100.

The terms prognathia and micrognathia denote the increase or decrease in the size of the jaws. Agnatia is an aplasia of the lower jaw, usually a very rare lethal defect.

Enlargement of the articular process in the mandible (laterognathia) - unilateral enlargement of the neck and head of the articular process, and sometimes the branch and body of the mandible. The defect is accompanied by facial asymmetry. The defect is extremely rare. Treatment is surgical.

Roben's syndrome is a combination of acute hypoplasia of the mandible, drooping of the tongue, and palatine gland. Frequency 1:30,000 births. Treatment - fixation of the stretched tongue to prevent attacks of suffocation. Subsequent surgical correction of the palatoschizis.

1.3. CONGENITAL DEFECTS OF ORGANS OF THE ORAL CAVITY AND THROAT.

Aglossia and microglossia (absence or reduction of the tongue) have not been defined as separate anomalies. Defects are observed in non-viable fetuses. Such defects arise as a result of improper development of the 1st and 2nd gill arches.

Macroglossia - excessive enlargement of the tongue with pronounced stratification of the mucous membrane. Usually accompanied by macrogeny. The syndrome is most often observed in Down syndrome and hypothyroidism. Macroglossia can be caused by vascular processes.

Tongue staple - the attachment or contraction of the staple at the tip of the tongue, which leads to limitation of tongue excitability and difficulty in speech and suction.

Small vestibule of the oral cavity - only the alveolar process of the mandible abnormality of the soft tissues of the anterior region It consists of a sharp contraction or complete absence of the area of the mucous membrane attached

below the gingival margin. If the gingival junction is narrow, the damaging movement moves to the papillae, gradually pulling them away from the tooth roots. Then inflammation appears, and periodontal pockets gradually begin to form. The cavities and roots of the teeth open, the teeth move and fall out.

Developmental defects of teeth. It is divided into four main groups:

1. anomalies in the number, size, and shape of teeth (complete or partial adentia, highly complex and fused teeth, microdentia or macrodentia of teeth), as well as anomalies in the development of all dental sections (crown and root shape).

2. disorders of tooth structure (aplasia, hypoplasia, enamel and dentin dysplasia).

3. Postural anomalies (retention and semi-retention of teeth), teeth located outside the dental arch or rotated along the axis.

4. disruption of eruption and growth periods (slow or accelerated eruption of teeth).

Diastema - in the upper jaw, the gaps between the anterior teeth can be 0.5 cm or more in the form of a wide opening between the central incisors.

The pharyngeal sac is a cyst-like formation of the nasopharynx, located along the midline near the pharyngeal tonsil (Tornwald's disease). The cyst is covered with glandular epithelium. Treatment is surgical, prognosis is favorable.

It is necessary to mention the developmental anomalies of the face and neck, which are within the competence of dentists. Of these, the following developmental defects are of greatest interest:

1. Middle cervical cysts and wound openings. They are thyroid cartilages.

and is located under the skin of the midline of the neck between the hyoid bone. The size of these cysts reaches 1-3 cm. Their inner surface is covered with ciliated, cylindrical, or stratified squamous epithelium. Sometimes the embryo has undifferentiated epithelium. These cystic cavities develop from the remnants of the thyroid-lingual defect during the embryonic period. Filling cysts can be emitted into the oral cavity through a wound opening in the blind foramen of the tongue. The external openings of the middle wound are located on the skin somewhat below the hyoid bone. Medial ulcer openings are secondary formations resulting

from the rupture of medial cyst suppuration. The cysts of the root of the tongue, located between the blind foramen of the tongue and the hyoid bone in front of the small tongue, are a type of middle cyst.

2. Cutaneous orifice and palatine cysts (medium or perforated palatine cysts) are located in the area of the nasopalatine canal, cutaneous papilla, as well as in the area of the palatine suture. One or two observations have been described.

3. Lateral cervical cysts are located in the neck along the posterior abdominal edge of the digastric muscle or along the anterior edge of the sternocleidomastoid muscle. They are formed from unreduced remnants of the gill opening and pharyngeal pouches. The cyst is usually covered with stratified squamous or cylindrical epithelium from the upper surface. Sometimes the wall of the cyst is represented by skin tissue with a process.

4. Parotid cysts and fistulas - branchogenic lateral cysts and types of fistulas. They originate from the 1st gill opening. Depending on their location, the parotid and parotid-rectal wound openings are distinguished. They manifest in early childhood. All cervical cysts are classified as early developmental defects and form at the 7th week of fetal development, clinically manifesting after 1 year of life. These cysts should be differentiated from serous fistulas and fistulas of infectious origin. Histological examination of the biopsy helps to make a diagnosis.

5. Dermoid cysts - congenital tumor-like formations. It is often found on the face at the site of bone sutures. Their formation is associated with the growth of the ectoderm within the tissues formed during the embryonic period. Dermoid and epidermal cysts are distinguished. The most common location is the bridge of the nose, the border of the bony and clavicular parts of the nose, the outer edge of the orbit, less frequently - the eyelids, lips, submandibular regions, the body of the mandible, the neck, and the thoracic fossa. A wound opening forms after suppuration.

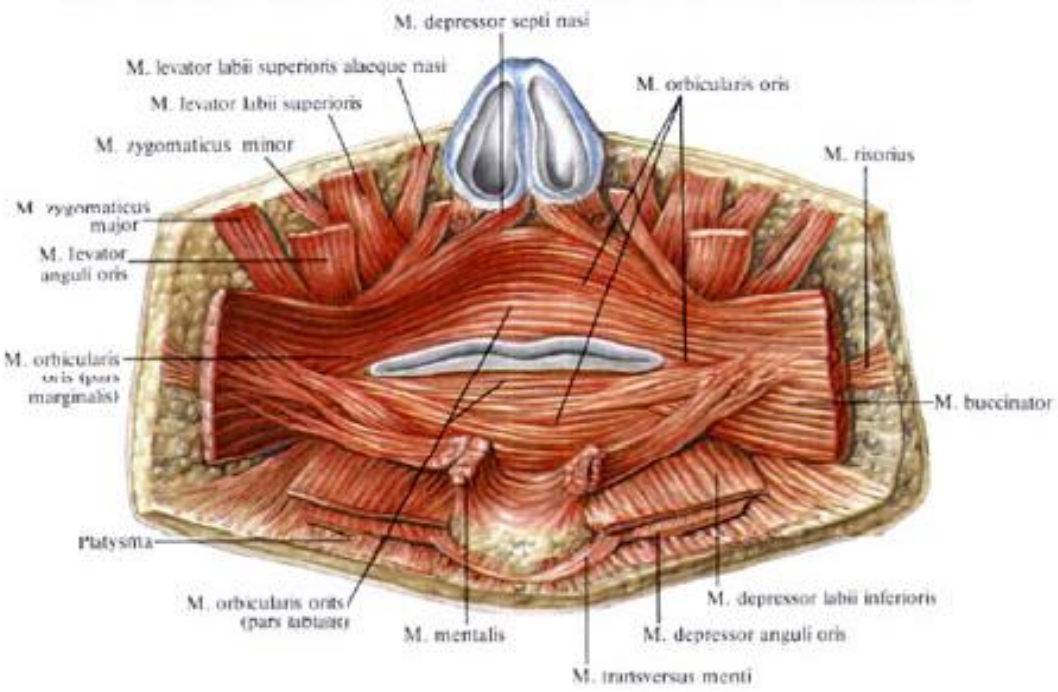
CHAPTER 2. ANATOMY OF THE MIDDLE AREA OF THE FACE.

2.1. ANATOMY OF THE UPPER AND LOWER LIPS.

The lips are covered with dense skin with a large number of sebaceous glands. The skin on the lips of men has hair, on the lips of women - fluff. On the lips themselves, the skin transitions into a non-rough epithelium, through which the venous network, forming the "red border," is visible. In moderately expressed subcutaneous connective tissue, there are muscles surrounding the oral cavity and determining its position. The skin behind the red border of the lips transitions into the mucous membrane at the entrance to the oral vestibule.

The labial layer contains the orbicularis oris muscle (m. orbicularis oris), which is divided into the labial and lateral, or facial, parts (Sharley). The first part is located within the red border, the second part - in the area of the lips covered with skin (Fig. 2). The labial part is represented by circular muscle fibers - sphincters, while the facial part is formed by a layer of muscle nodes and circumferential fibers that pass from the oral fissure to joints in skeletal bones. When the circular muscle group contracts, it connects the oral cavity, brings the lips together with the teeth, and shortens the visible part of the red border. When the peripheral part of the circular muscle contracts separately, the lips protrude forward, the visible part of the red border increases, leading to the opening of the oral fissure. The circular muscle participates in the processes of food intake and sound production. We will list the main muscles that pass from the circular muscle of the mouth to the sites of bone attachment.

Figure 2. Muscles surrounding the oral fissure (inside view, separated from the facial bones by cutaneous muscles, mucous membrane of cheeks and lips removed)



The muscle that lifts the upper lip (m. levator labii superior, s. caput infraorbitale, m. quadratus labii superior) originates from the lower edge of the orbit and the head of the zygomatic process of the maxilla, descends, and inserts into the skin of the maxilla. During contractions, it raises the upper lip, except for the edge of the mouth. It gives expression of sadness and crying to the face.

The muscle that lifts the upper lip and nasal wing (m. levator labii superior alaeque nasi, s. caput angulare m. quadrati labii superior) originates from the lower edge of the orbit and the frontal process of the maxilla, descends, and inserts into the skin of the upper lip. When contracted, the muscle raises the upper lip and wings of the nose.

The levator anguli oris muscle (m. levator anguli oris, s. caninus), the fossa canina pod for. It begins in the infraorbital region and extends to the corner of the mouth with the aforementioned muscles. When contracted, it curves the corner of the mouth to the side and upward.

The zygomatic muscle (m. zygomaticus minor, s. caput zygomaticus, m. quadrati labii superior) originates from the surface of the zygomatic bone, extends downwards and inwards, and inserts into the corner of the mouth. When contracted, it lifts the corner of the mouth, more often expressing sadness, crying, and smelling. Artists call this group of muscles the "weeping muscles."

The zygomatic muscle (m. zygomaticus major) originates from the surface of the zygomatic bone, extends downward and inward, and inserts into the skin of the corner of the mouth. When contracted, the muscle pulls the corner of the mouth and the nasolabial layer up and back, stretching the oral fissure. Participates in the expression of laughter (m. risorius - "laughter muscle").

The buccinator muscle (m. buccinator) originates in the alveolar ridge of the mandible in the area of the suture of the jaw wing and molars and attaches to the skin of the corner of the mouth and the muscles of the upper and lower lips by a partial intersection of muscle tissues at the corner of the mouth. Contraction of the muscle leads to transverse expansion of the oral cavity, participates in the activity of spitting or blowing air from the oral cavity ("trumpet muscles").

The depressor muscle of the lower lip (m. depressor labii inferior, s. quadratus labii inferior) originates from the lower edge of the mandible, the mental tubercle, and inserts along the entire length of the lower lip. When contracted, it pulls the lower lip downward, pushing the corner of the mouth outward. The visible part of the red border of the lip increases, the lip opens, and the chin-lip layer separates. The expression of the face reflects disgust.

The depressor angle muscle, or triangular muscle of the mouth (m. depressor anguli oris, s. triangularis oris), originates from the lower edge of the mandible to the outside of the mental tubercle and inserts into the corner of the mouth and the area where the upper and lower lips meet. The muscle moves the corner of the mouth and the nasolabial layer up and down; simultaneous contractions of the

muscles lead to closure of the oral cavity, while limited contractions reflect sadness and more pronounced - hatred.

The subcutaneous muscle of the neck (m. platysma) covers almost the entire anterior region of the neck in the pharyngeal layer and attaches to the muscles of the corner of the mouth with its ganglion extending into the facial region. Shortening ensures its lateral and downward movement. The development of the parotid facial muscles is not uniform, which, together with individual qualities of the facial skeleton, forms different shapes of the mouth. In hyperplasia of the mucous glands and submucosal connective tissue, swelling of the mucous membrane adjacent to the red border develops. Two lips are created, which are more characteristic of the upper lip (labium duplex). Branches of the facial artery pass through the labial layer: the superior and inferior labial arteries (aa. labialis superior et inferior). They are located in one-fourth of the dorsal and middle labial layer, close to the mucous membrane, 6-7 mm from the free edge (A. A. Bobrov) and form a ring, ensuring good blood flow. Additionally, the lips receive blood from the subbranches of the infraorbital and mentalis arteries. Area veins have the same name as arteries and accompany them. Lymphatic vessels of the lips carry lymph to the submandibular region and, in addition, to the zygomatic, parotid, superficial, and deep cervical lymph nodes. The vessels carry lymph from the middle part of the lower lip to the chin nodes. Lymphatic vessels are widely anastomosed on both sides of the lips. Therefore, the pathological process can cause a reaction of the lymph nodes on the other side, forcing the removal of the submandibular lymph nodes on both sides in lower lip cancer. The skin of the lips is innervated by the superior labial nerves (suborbital branches), the inferior labial nerves (mental branches), and in the area of the corners of the mouth - by branches of the zygomatic nerve.

2.2. ANATOMY OF THE PALATE.

The hard palate (palatum durum) consists of the palatine processes of the maxilla and the horizontal plates of the palatine bones. Its back is located only 0.5 cm from the posterior wall of the pharynx. In the fetus, it is flat; with the growth of the upper jaw, mainly the alveolar process, the palate takes the shape of a superior dome. After tooth loss, the hard palate flatens again. From the sides, the hard palate is bordered by alveolar processes.

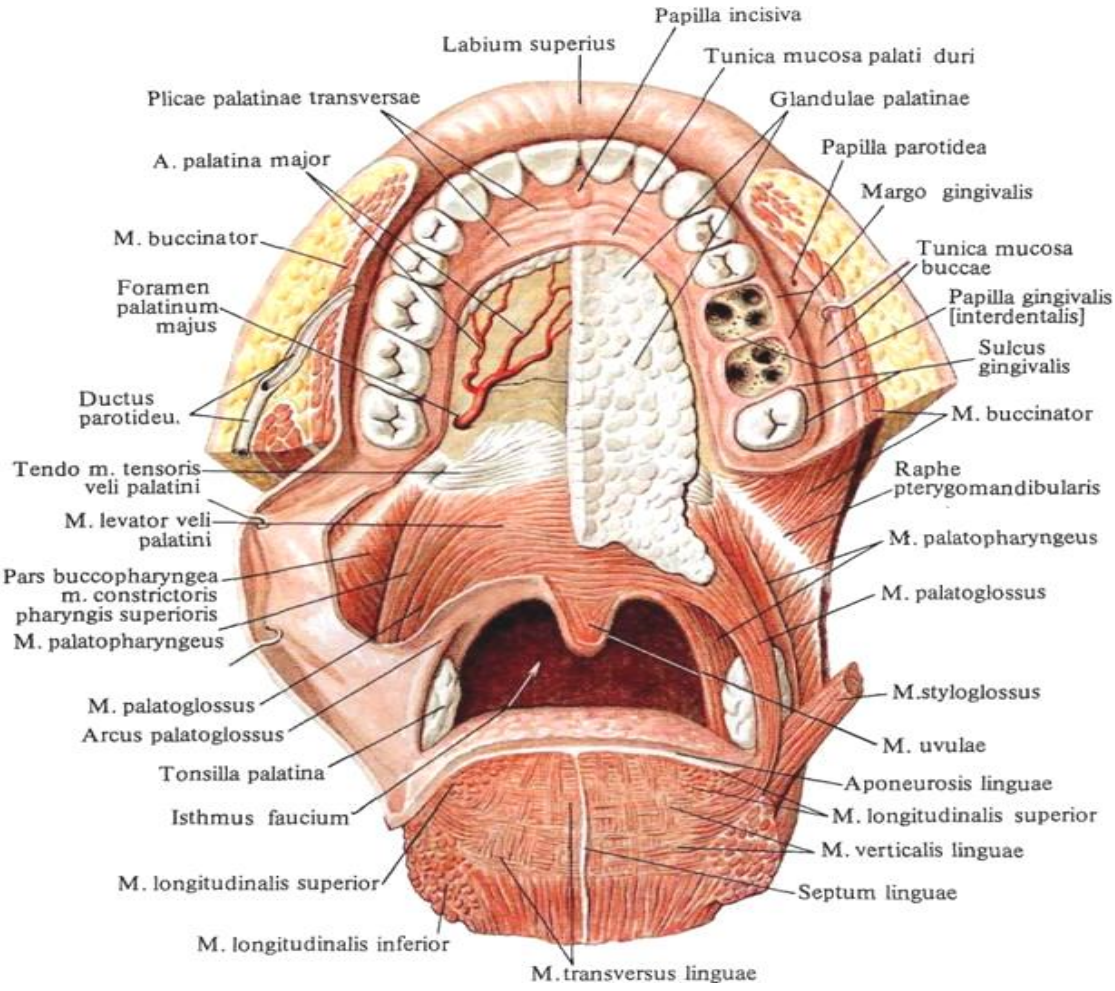
The mucous membrane of the hard palate in the anterior sections is tightly fused with the periosteum and has the appearance of layers: rugae palatinae et sutura palatina mediana. The first layers occupy a transverse position, the second corresponds to the middle seam. With age, the transverse layers become smoother. The submucosal layer is represented only in the posterior sections of the hard palate, from the sides of the middle suture. Under the mucous membrane are blood vessels, nerves, mucous glands, and fatty inclusions.

Soft palate (Fig. 3). The soft palate (palatum molle) is a direct posterior extension of the hard palate; in its function, it can be considered part of the pharynx. It consists of the mucous membrane, glands, and submucosa with a muscular base. The soft palate is connected laterally to the lateral walls of the pharynx and terminates at the back with a free edge, forming a tongue from below. During free breathing, it takes a vertical position, thereby separating the oral cavity from the pharynx; during swallowing, it moves backward and upward, separating the oral cavity from the nasopharynx.

The palatine and pharyngeal muscles are normal. The tensor veli palatini muscle (m. tensor veli palatini) is located between the plane, triangular, medial pterygoid muscle, and the muscle that lifts the palatine membrane. With its wide base, the scaphoid fossa (fossa scaphoidea), the sphenoid bone, begins from the lamina propria of the cartilaginous part of the auditory tube and the edge of its bony groove, and reaches the sphenoid axil. Descending, it passes into the narrow tendon, which, bypassing the groove of the pterygoid loop of the pterygoid process and the mucous sac in it, then spreads along the aponeurosis of the soft palate with

a wide bundle of tendon fibers. Some bundles attach to the posterior edge of the horizontal plate of the palatine bone and are partially wrapped on the opposite side by a bundle of the muscles of the same name. Function: stretches the anterior part of the soft palate and the pharyngeal part of the auditory tube.

Figure 3. Anatomy of palate



Innervation: n. tensoris veli palatini. 2. The muscle that lifts the palatine membrane, m. levator veli palatini, is flat, medial to and posterior to the anterior one. It originates from the lower surface of the petrous part of the temporal bone, anterior to the external opening of the carotid canal, and from the cartilaginous part of the auditory tube, on its lower medial side. The fasciculi extend downwards, inwards, forward, and dilate, entering the soft palate on the opposite side, surrounded by the muscle fascicle of the same name. Some of the bundles attach to the middle part of the aponeurotic palate. Function: raises the soft palate, narrows the pharyngeal opening of the auditory tube. 3. The uvulae muscle, mm. uvulae is a bundle of two muscles connecting at the midline of the uvula. The gradual decrease in the number of muscle bundles forms its conical shape. The muscles originate from the posterior nasal axis of the hard palate, the posterior nasal spine, the palatine aponeurosis, and extend to the midline, enveloping the mucous

membrane of the uvula. Most of the muscle bundles attached to the palatine aponeurosis reach the midline, as a result of which the midline thickens and is called the palatine suture. Function: shortens and raises the tongue. 4. Palato-lingual muscle, m. palatoglossus, narrow, flat, lies in the arch of the same name. The muscle begins at the lateral edge of the lingual root, as if forming a continuation of the transverse muscle bundles, and rises upward, ending at the aponeurosis of the soft palate. Function: constricts the pharynx, brings the anterior ducts closer to the root of the tongue. 5. palatopharyngeal muscle, m. palatophatyngeus, is flat, triangular, with most of it lies in the same-named loop. The muscle begins at a wide base in the area of the posterior wall of the laryngeal part of the pharynx and in the plate of the thyroid cartilage. Muscle bundles extend to the center and upward of the palate and enter the soft palate layer from the sides, where they wrap around the palatine aponeurosis. Part of the bundles attach to the pterygoid loop of the pterygoid process, and part - to the lower edge of the medial cartilaginous plate of the auditory tube, forming the pharyngeal muscle, m. salpingopharyngeus. Function: brings the palatopharyngeal ducts closer and pulls the lower part of the pharynx and larynx upward. Innervation: all four muscles - plexus pharyngeus. Blood supply: all muscles - aa. palatinae (a. facialis, a. maxillaris).

CHAPTER 3. EPIDEMIOLOGY AND ETIOLOGY OF CONGENITAL DEFECTION OF THE UPPER LIPS AND PALATE.

3.1. DISTRIBUTION OF CONGENITAL LAP AND PALATE.

According to various sources, the population frequency of congenital cleft lip and palate ranges from 1:1000 to 1:460 newborns. Statistical studies show that the number of children born with cleft lip or palate has tripled in the last 100 years.

Currently, the birth rate of a child with cleft lip and palate is: in Europe (depending on the country) - 1 case per 500-1000 newborns; USA - 1:600; In Japan - 1:588 and in Africa, the lowest indicator is among Negroids - 1:2440 newborns.

According to the latest data, in Central Europe this ratio is 1:500. The number of patients with cleft lip and palate has doubled over the past 40 years.

According to the latest data from ICBDMS (International Clearinghouse Birth Defects Monitoring System) and (international clearinghouse birth defects monitoring system), it was 1 case per 1000 newborns. They can occur both as a separate developmental defect and as a sign of one of the congenital syndromes (vander-wood syndrome, pierre robin syndrome, etc.). According to tindlund r.s., holmefjord a., 120-140 children with cleft joints are born annually in norway, with an average of 2:1000. Palomino's research with co-authors in chile showed that the birth rate of children with defects in this region corresponds to 1.5 out of 1000 live infants.

High rates of congenital cleft lip and palate were found in australia, canada, india, scandinavian countries, south africa, and the usa. The lowest rates are in eastern europe.

Data on the relationship between the prevalence of the defect and racial characteristics are provided by Das S. K. et al. The authors presented epidemiological studies of cases of cleft lip and palate in the state of Mississippi (USA) from 1980 to 1989. All identified cases of congenital malformations were distinguished by racial affiliation, without considering their association with significant malformations [white and colored]. During the specified period,

439,354 newborns were examined, among whom 457 patients with cleft lip and palate were identified. Among live infants, the number of complete defects was 1.36:1000 among whites and 0.54:1000 among colored. Derijcke A. et al. observed a similar trend in the prevalence of congenital facial defects. Among white boys, the number of births was higher than among white girls. Black boys had a significantly lower frequency of cleft lip, while black girls showed a higher frequency of individual cleft palate. According to the authors, the study of the frequency of congenital malformations in each district of the state of Mississippi did not reveal a sufficient correlation between the intensity of the use of potentially toxic products and the increase in the frequency of malformations in the most developed agricultural regions of the state.

Derijcke A. et al. provide the most complete assessment of the prevalence of congenital orofacial malformations in Europe. The authors reviewed the results of epidemiological studies of cases of congenital cleft lip and palate in several regions of Europe and America. In general, the frequency of children born with defects ranged from 1.0 to 2.21 per 1000 newborns. The highest frequency of children born with this pathology was observed in Czechoslovakia (1.81:1000), France (1.75:1000), Finland (1.74:1000), Denmark (1.69:1000), Belgium and the Netherlands (1.47:1000), Italy (1.33:1000), California (USA) (1.12:1000), South America (1.0:1000).

In Saudi Arabia (King Khalid University Hospital), an epidemiological study of 20045 children born in the last ten years was conducted. Among 1000 live births, the frequency of children born with congenital cleft lip and palate was 0.3%. The hereditary factor was detected in 26.8% of cases. Individual cleft lip was 38%, congenital cleft lip and palate 37.4%, individual cleft palate 22.4%. Combination with small maxillofacial anomalies was detected in 13.4% of children.

In Libya, the number of children born with congenital cleft lip and palate is 0.28% of every 1000 newborns. In Kuwait, this indicator is equal to 1.5:1000, which is significantly lower compared to European countries, where the coefficient

varies from 1.35 to 1.8 cases.

L. E. Frolova et al. (1986), S. V. Belyakova et al. (1990) in Moscow in 1979-1993, this pathology occurred in 1.17 out of 0.60 out of 1000 newborns. In Moscow, this figure averages 1:700 per year.

V. I. Ismailova et al. According to (2000), in the Volgograd region, this indicator is 1:745 of newborns. The birth rate of children with maxillofacial pathologies averages 1:500 with an increasing trend over the past 15 years.

In the Republic of Sakha (Yakutia), the frequency of LTTK occurrence over 11 years (from 1986 to 1996) was 1:820, which does not differ from the average for the Russian Federation (Yakovlev S. V. et al., 1999).

G. I. Ogneva, Ad. According to the latest data of A. Mamedova and V. M. Boeva (2000), the frequency of children with congenital cleft lip and palate in the Orenburg region was 1:745 newborns. According to their research, there has been no increase in the number of births of patients with LTTK in the last 21 years. However, there is an increase in the number of births in individual districts of the region, which is associated with the ecological situation of the district and the "residual radioactive trace" in one of the districts of the region. In the Sverdlovsk region, congenital defects of the maxillofacial region rank second and account for about 20% of all defects. The frequency of children born with cleft lip and palate in the city of Omsk is 1.53 per 1000 newborns, and 1.35 per region.

In the Republic of Belarus in the early 1980s (Chernobyl accident), the birth rate of children with cleft lip and palate was 1:1124 of newborns. The number of patients with cleft lip and palate who were undergoing treatment at the Children's Clinic of Maxillofacial Surgery of the Minsk Medical Institute after the Chernobyl nuclear power plant accident increased from 61 people in 1988 to 110 people in 1998, which indirectly indicates an increase in the number of patients with cleft lip and palate in Belarus against the background of a decrease in the number of births.

In the Republic of Georgia, a study by Z. O. Vadachkorya (1996) showed that the prevalence of congenital cleft lip and palate was 1.05 per 1000 in 1981-1990.

The study of the frequency of congenital cleft lip and palate in large regions and the city of

Tashkent showed that against the background of a decrease in the total number of births, it remained stable and did not have a tendency to decrease. The average frequency of births is 1 in 745 cases. The highest rates were detected in the Aral Sea region - 1 out of 540 newborns.

Analyzing the presented data, it should be noted that LTTK remains the most common form of congenital deformity of the face. At the same time, studies in many countries have shown a tendency towards an increase in the severity of the clinical manifestations of this defect.

Such a wide range of digital data depends to a certain extent on the large number and diversity of risk factors, as well as medical-biological, social, and geographical reasons.

3.2. RISK FACTORS FOR THE DEVELOPMENT OF CONGENITAL CLEFT LIP AND PALATE.

Congenital defects of the maxillofacial region are very diverse. Their appearance is caused by various negative effects on fetal organs, especially in the early stages of pregnancy.

The presence of hereditary and acquired causes of the development of this defect is considered established. Hereditary causes develop during the maturation of sex cells and depend on the state of previous distant ancestors. They are based on genotype change (mutation). Non-hereditary causes arise due to disruptions in the conditions of embryonic development, which can be obtained experimentally by exposing the embryo to various damaging factors.

Conventionally, all existing risk factors leading to the development of congenital cleft lip and palate are subdivided into exogenous and endogenous.

EXOGENEOUS RISK FACTORS:

Physical factors: mechanical effects include high pressure on the developing fetus, uterine developmental defects, and constriction of the sacrum. Single trauma to the mother in the early stages of pregnancy, abortions can be teratogenic agents.

Great importance is attached to the influence of *ionizing radiation* (X-rays, the influence of radioactive isotopes). In addition to its direct effect on the genetic apparatus, ionizing radiation has a toxic effect and is the cause of many congenital anomalies.

Chemical factors. *Fetal hypoxia*. It is known that uteroplacental circulation plays a significant role in controlling the transfer of oxygen from the mother to the fetus through the placenta and in the reverse direction of carbon dioxide. Disorders of uteroplacental circulation underlie the pathogenesis of many cases of intrauterine fetal hypoxia, depending on various conditions. Under conditions of pathology, uteroplacental circulatory disorders and difficult delivery of oxygen to the fetus occur. In such cases, the blood flow velocity can decrease by 3-4 times. Along with dystrophic changes, severe toxicosis of pregnant women, anemias, pathology of the cardiovascular system, and some other extragenital diseases are accompanied by a shortening of the placental exchange surface from 7 m2 and even up to 4.5 m2. This leads to a sharp disruption of oxygen diffusion through the placental membrane and the development of fetal hypoxia.

Insufficient oxygenation during organ formation causes various intrauterine developmental defects, including teratogenic ones. In chronic forms of oxygen deficiency, the protective mechanisms of the fetus and its adaptive reactions to hypoxia are insufficient, as a result of which various disorders arise in embryogenesis, up to the degree of complete cessation of intrauterine development - embryotoxic effect.

Great importance is attached to the factor of alimony and, above all, to the deficiency of basic nutrients in the mother's nutrition. Currently, it is known that the consequences of fetal starvation and malnutrition during pregnancy are very wide - from mild intrauterine hypotrophy to developmental anomalies and stillbirth. At certain stages of embryogenesis, the fetus has high demands for certain chemical substrates necessary for the formation of certain organs and tissues. Deficiency of these substances in the mother's diet can lead to the development of selective disorders in individual organs and systems.

It should be remembered that the formation and separation of fetal organs occurs in the first trimester. Therefore, it is very important that complete proteins, vitamins, and mineral compounds enter the pregnant mother's body during this period.

Teratogenic poisons. In recent years, the attention of researchers and clinicians has been drawn to the problem of the harmful effects of some drugs, penetrating the placenta of pregnant women and negatively affecting the developmental processes of the fetus.

In the experiment, a cleft palate was obtained by "giving vitamin A and cortisone" to the female rats. The dependence of the effect of pharmacological drugs on the fetus on the dose and duration of the treatment course, the rate and degree of their passage through the placenta, especially on its reactivity, which varies at different stages of fetal development, is not always taken into account. The presented data indicate the complexity of the conditions that determine the effect of pharmacological agents received by the mother on the fetal organism. Many drugs belong to the group of compounds with high biological activity and require further study.

The drugs may cause specific defects if prescribed during the acute periods of the above-mentioned organogenesis, and at other stages of gestation they may not have any pathological effect. There are no medications that can undoubtedly be recognized as completely safe, especially in the early stages of pregnancy.

Corticosteroids, androgens, estrogens, antithyroid preparations, tranquilizers, antidepressants, antiestrogenic agents, antimalarial drugs, neuroleptics, anticoagulants, salicylic acids, antibiotics are the most reliable preparations with teratogenic activity.

Potential teratogenicity of the drug is also determined by:

1) time of drug administration;

2) individual sensitivity of the patient to this drug;

3) the number of drug insertions;

4) factors such as the overall frequency of congenital anomalies during the use of this drug.

When prescribing medications, it is necessary to remember that the fetus is most sensitive on days 15-90 of gestation, when organogenesis processes occur. Organogenesis processes are fully completed by the 13th week of gestation, after which the main teratogenic effect is expressed in delayed fetal development or the formation of functional disorders, gross anatomical defects are rare.

Biological factors. Pathogenic bacteria living in the mother's body during the acute period of embryogenesis can enter the embryo through the placenta, directly affect its tissue, and cause disability by increasing temperature, changing oxygen supply, disrupting endocrine function or vitamin stability (syphilis, listeriosis, brucellosis bacteria). Infection of the mother with staphylococci, streptococci, pneumococci, gonococci, paratyphoid, tuberculosis bacteria, leprosy, and protozoa with toxoplasma has a teratogenic effect. In addition, some bacterial and protozoan microorganisms and their toxins: plasmodia, white treponema, coccal microorganisms, tularemia, gonococcal bacteria, typhoid bacillus, dysentery bacillus, paratyphoid bacteria, rickettsiae, toxoplasmosis.

Psychological factors. The pathogenesis of psychological trauma is explained by hyperadrenalinemia, which disrupts placental circulation, which can be the cause of disability, albeit short-term.

Medical and social factors also influence the frequency of developmental anomalies. In children born to mothers with diabetes, congenital anomalies occur in 4-12% of cases. Recent studies have shown that careful monitoring of glucose levels before and during fertilized egg implantation allows for a 1.2% reduction in the frequency of congenital anomalies.

It is also important what teratogenic preparations the father used. Men who use cocaine have a high risk of developing congenital anomalies in their offspring. Cocaine enters the sperm and can enter the egg cell during fertilization, which is the cause of disruption of the normal process in fetal development.

In addition, the consumption of alcohol and nicotine leads to various congenital disorders, the severity of which depends on the amount of alcohol consumed - especially in the early stages of pregnancy. Fetal (i.e., damaging the fetus) alcohol syndrome is a severe congenital disorder, sometimes incompatible with life.

Currently, environmental risk factors play a significant role in the development of congenital malformations of the gastrointestinal tract. The combination of harmful production and environmental factors is one of the reasons for serious deviations in health status, including the high frequency of congenital malformations in children. Congenital developmental defects are one of the leading indicators of the long-term consequences of environmental pollution on the human body.

It should be noted that the features of the metabolism of various agents of the external environment entering the body of pregnant women have not been sufficiently studied. Based on this, it is possible to assume a large number of unaccounted for or unidentified environmental factors, as a result of which it is often impossible to determine the main cause of the birth of a child with a congenital developmental defect.

Numerous factors of the external environment, having a harmful effect on the development of the embryo and fetus, exert their destructive influence as a result of penetration through the placenta or changes in its permeability.

Human diseases associated with environmental change are recognized through physical life support systems: air, water, food. Since the quality of water is largely determined by the purity of the soil, another system, soil, is also included in it.

One of the leading factors of anthropogenic impact on health is aerogenic factors. At the same time, the effect on the human body can manifest itself mainly in three types of pathological effects.

1. Acute intoxication occurs with the simultaneous arrival of a toxic inhalation dose. Toxic manifestations are characterized by an acute onset and

pronounced signs of specialized intoxication.

2. Chronic intoxication begins with the manifestation of low-specialized symptoms associated with prolonged, often intermittent, intake of chemicals in subtoxic doses.

3. Long-term effects of toxicants.

a) The gonadotropic effect manifests itself in the influence of spermatogenesis in men and oogenesis in women, resulting in disruptions of reproductive function in the biological object.

b) the embryotropic effect manifests itself in the intrauterine development of the fetus:

teratogenic effect - the appearance of disorders of organs and systems manifested in postnatal development;

embryotoxic effect - the death of a fetus or a decrease in its size and weight with normal tissue differentiation.

c) mutagenic effect - a change in the hereditary characteristics of an organism due to DNA disorders.

d) Oncogenic effect - the development of positive and negative neoplasms.

According to Bistriy V. V. (1999), the results of medico-ecological and hygienic studies convincingly testify to the fact that air pollution causes the appearance of various toxic reactions in the population, starting from the early stages of ontogenesis.

Many researchers have identified high birth rates of children with LTTK in areas with polluted atmospheric air. The risk of increasing cases of this congenital pathology, the relationship between genetics and the environment is obvious, but these issues, despite the development of modern technologies, have not been sufficiently studied.

Thus, in Orenburg, in a district with a high level of air pollution, a high prevalence of congenital developmental defects, congenital anomalies of the limbs and face has been established.

The literature emphasizes the importance of the etiological significance of

radioactive radiation in the development of congenital cleft lip and palate. In the offspring of irradiated animals in the "sharp" periods of pregnancy, cleft palate was observed in 93.4% of cases.

In the territory of Uzbekistan, such a "problem zone" is the Aral Sea region. The negative environmental situation in Karakalpakstan, which has developed over many years, the high morbidity rate in women of fertile age, and the persistent growth rate of children with LTTK can suggest the influence of environmental factors on the mother's body in the first half of pregnancy, the likelihood of developing congenital maxillofacial anomalies in the child.

ENDOGENIC RISK FACTORS:

These include: hereditary, biological incompleteness of germ cells, age of parents. Often, the factor of hereditary predisposition plays an important role in the development of congenital malformations: it is known that if parents or close relatives have congenital malformations, then the risk of having a child with similar malformations increases, that is, we are talking about "family accumulation" of development.

In examples of cleft lip and palate of various etiologies, general principles are observed, characteristic of any monogenic, multifactorial, and chromosomal hereditary diseases. The autosomal dominant form of the disease can occur both in the inheritance of a mutant gene from parents with cleft lip and palate, and in the formation of a sporadic mutation in the sex cell of one of the parents. However, in both cases, the risk of having a child with a defect is 50%.

Previously, when cleft lip and palate caused infant mortality in the first years of life, almost all newborns with autosomal dominant syndrome present in the population appeared due to new mutations. Currently, with significant improvements in surgical technique and the implementation of a whole system of rehabilitation measures, the number of operated individuals with autosomal dominant syndrome, who have entered into marriage and are transmitting the mutant gene to their children, is increasing. An increase in the average age of parents, especially fathers, is characteristic of autosomal dominant mutations. The increase in the degree of paternal age in various autosomal dominant syndromes of cleft lip and palate is practically the same and amounts to 32.7+7.4, which is 5 years more than the age of the fathers in the control group. In autosomal complementary syndromes, inbreeding or parental kinship, determined by the "marriage distance" coefficient (the distance from the husband's birthplace to the wife's birthplace), is not significant.

A child with a defect in autosomal recessive syndromes with cleft lip and palate is born to two healthy parents, heterozygous carriers of the abnormal gene. In this family, the risk for another child, like the first one, is 25%, while the risk

for proband children with the defect is minimal. Naturally, the age of the parents and the proband's pregnancy count are not significant in such syndromes. At the same time, the "marriage distance" is quite close. In a number of cases, the parents of sick children are blood relatives. The frequency of new recessive mutations is extremely low; parents of a child with this syndrome are almost always heterozygous.

The most common monogenic form of cleft lip and palate is sex-linked syndromes. X-linked mutations are most common, in which the woman is an undamaged carrier of the mutant gene. In this case, the corresponding defects in the genealogy are found in men. In X-linked dominant inheritance, the syndrome is detected in heterozygous women, while in hemizygous men, the lesion is so acutely expressed that it is usually incompatible with intrauterine life.

Labial and palatal clefts can occur as part of many developmental defects in chromosomal abnormalities. Common signs of all syndromes of chromosomal etiology are prenatal hypoplasia, symmetry of lesions, and oligophrenia. Such children with cleft lip and palate are the most clinically severe. Labial and palatal clefts are not characteristic of any single-chromosome syndrome. They occur in 50% of chromosomal abnormalities (1;3;4;5;7;10;11;13;14;18;21 and X), both in deletions and translocations. This does not mean that any child, for example, with Down syndrome, has cleft lip and palate, but the frequency of cleft lip in Down syndrome is 10 times higher than the overall frequency.

Multifactorial inheritance of cleft lip and palate is characterized by features common to all multifactorial diseases. For such forms to appear, there must be genetic damage (propensity) and some negative environmental influences capable of transferring the damage to a developmental defect. Negative environmental conditions do not automatically lead to the development of such syndromes, regardless of a specific genetic background. Such a hereditary trait is the difference in the "border of predisposition" for men and women (the defect is formed only when the "gene concentration" exceeds a certain value - the "border"). The overall effect of genes capable of causing defects in individuals of the same sex, such as

men (as with any other defect), is insufficient to cause them in a female individual.

Consequently, in multifaktorial nature, the frequency of lesions in girls and boys with cleft lip and palate is different, while in monogenic forms (with the exception of the extremely rare X-link), this indicator is the same in men and women.

In some cases, this developmental defect is associated with a mutation of one gene and is inherited in a recessive or dominant manner. In many cases, the inheritance of this defect is explained by the theory of a polygon type of hereditary pathway with a boundary effect. It is believed that cleft lip and palate are formed as a result of a combination of hereditary traits and the negative influence of the external environment.

The inability of the cells involved in fertilization to form a full-fledged zygote may be related to heredity, the "maturation" of germ cells during prolonged storage in the genital tract, and their damage. In this regard, it should be noted that 75% of chronic alcoholics have pathological changes in spermatozoa.

Despite the existence of a large number of literature on the topic, the parable about the significance of parental age in the etiology of cleft lip and palate in offspring does not have a definitive solution. Some researchers attribute the decisive role to the mother's age.

It has been established that older maternal age leads to the appearance of aberrant complexes, in particular, an increase in the frequency of chromosome inseparability and age-related karyotype changes. Systematic study of the regularities of the physiology of ontogenesis made it possible to conduct an analysis of the genesis of disabilities and the state of physiological immaturity.

In multifactorial clefts of the lips and palate, manifestations of the influence of micro-signs - abnormal genes - can be detected in the parents. True microparticles found in parents of children with multifactorial cleft lip and palate include:

1) short palate in cleft lip, asymmetry of the nasal wing, deviation of the nasal axis, prognathia, unusual tooth shape;

2) short palate with cleft palate, unusual tooth shape, diastema, progenia, cleft tongue.

Analysis of the indicated microparticles indicates a possible difference in the genetic etiology of cleft lip and palate, since such microparticles as prognathism and deviation of the nasal axis are characteristic of cleft lip, and for cleft palate - prognathism, diastema, and cleft tongue. Finally, a group of syndromes of cleft lip and palate, the origin of which is associated with specific environmental factors, has been described. These syndromes can be divided into two groups:

Syndromes caused by teratogenic effects (e.g., thalidomide or fetal alcohol);

Syndromes arising from the non-specialized influence of various factors (e.g., "vascular factor," leading to hypoxia and necrosis), which are mediated by a general pathological mechanism. Currently, 6 specialized teratogenic syndromes with cleft lip and palate have been described:

- fetal-alcohol;
- thalidomide;
- aminopterin;
- gidantoin;
- amniotic ligament syndrome;
- trimethadione.

For non-specialized syndromes, the influence of factors that are considered "risk factors" for the realization of hereditary predisposition in multifactorial cleft lip and palate is characteristic. To them:

- fever of the pregnant woman;
- vitamin deficiency;
- micronutrient deficiency (copper);
- • taking medications with mutagenic activity, as well as steroid hormones, androgens, estrogens, insulin, and adrenaline;
- • mother's infectious diseases;
- • diabetes;
- • gynecological diseases..

Some hereditary monogenic syndromes with cleft lip and palate:
Autosomal dominant syndromes (Table 2).

Table 2.

Name	Clinical picture
Goldenar syndrome	Lip and palate cleftness, multiple basal cell carcinomas, jaw cysts, skeletal enamaly.
Gorlin syndrome	Lip and palate cleftness, unilateral dysplasia of the auricle, unilateral hypoplasia of the mandibular branch, various epibulbar dermoids, spinal anomalies, heart defects, anomalies of the kidneys and genitals.
Frer-May syndrome	Cleft lip and palate, macrocephaly, hypertelorism, flat nose, twisted nose, mesomelia, clinodaktilia, anomalies of the spine and genitals.
Acroosteolysis syndrome	Cleft palate, "melting" of the final phalanges with thickening of the fingers, short stature, kyphosis, deformity of the lower leg, micrognathia, dolichocephaly, premature tooth loss.
Van der Woods syndrome	Cleft lip and palate, lip sinuses.
Clavicle-cranial dysplasia syndrome	Cleft palate, broad cranial vault, immature skull, small face, vermiform bone, extra teeth, absence or hypoplasia of the clavicle, other skeletal anomalies.

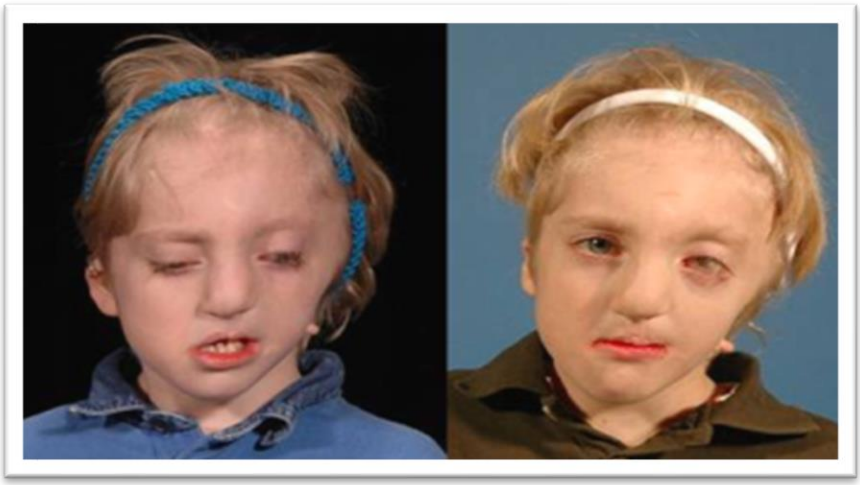
Autosomal recessive syndromes (Table 3).

Table 3.

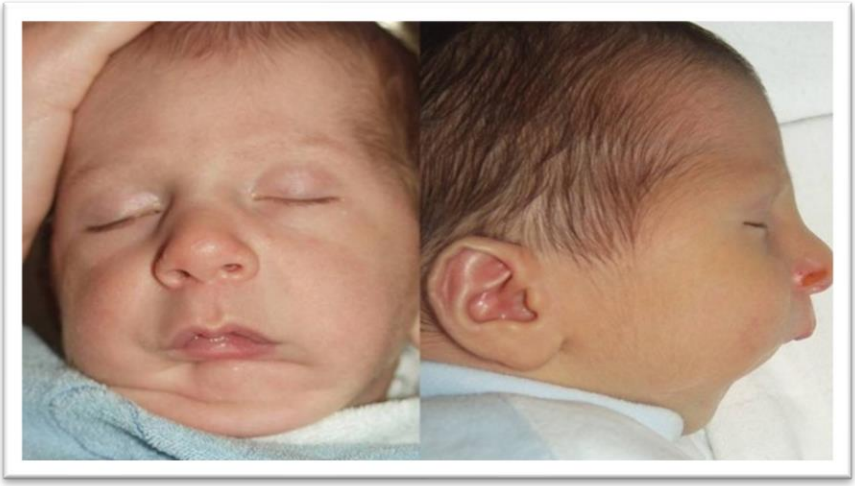
Juberg-Hitward syndrome	Cleft lip and palate, microcephaly, hypoplastic distal placement of the thumb, short forearm bones.
Meckel syndrome	Lip and palate cleftness, polydactyly, polycystic kidney disease, encephalocele, heart defects, and other anomalies.
Bixler syndrome	Cleft lip and palate, hypertelorism, microothia, renal atony, congenital heart defects, growth retardation.
Cryptophalm	Cleft lip and palate, abnormalities of the cryptophalm, hairline on the forehead, various syndactyly on the arms and legs, colombus of the wings of the nose, anomalies of the genitals.

Cerebrostomandibular syndrome	Cleft palate, microcephaly, rib defects
Christian syndrome	Cleft palate, craniosynostoses, microcephaly, arthrogryposis, adducted thumb.

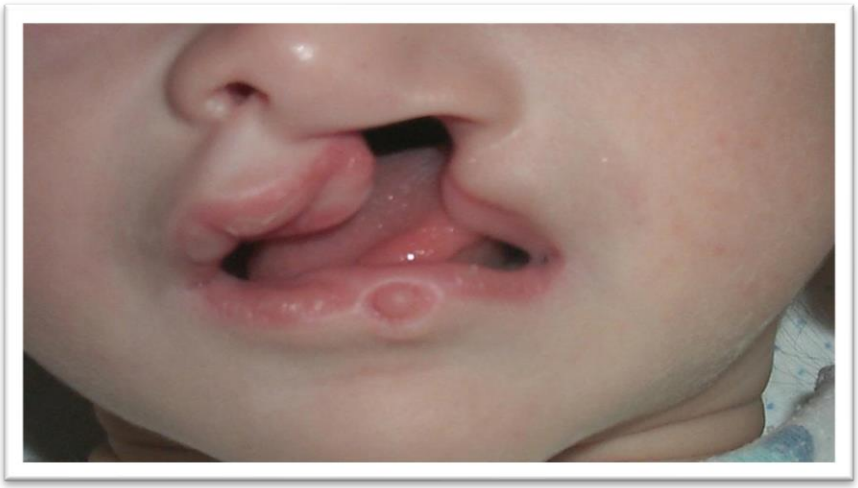
Goldenar syndrome (photo of patient)



Pierre Roben syndrome (photo of patient)



Van der Woods syndrome (photo of patient)



Thus, the causes of LTTK development can be both exogenous and endogenous factors, acting in the early stages of intrauterine development, namely during the formation of the facial skeleton. More than half of TPNs are caused by environmental and multifactorial influences. New undetectable teratogens appear and are not eliminated, and the quality of life that determines the health of the population and the low quality of medical care negatively affect its reproductive function.

Most researchers have come to the consensus that cleft lip and palate are a pathological process with various etiological risk factors, as well as polygamy with a large difference in population and family frequency.

One of the therapeutic and preventive methods of providing specialized medical care to both children and adults is consultative assistance, which helps to identify risk factors, establish a diagnosis, and choose the correct, timely preventive and therapeutic measures. The importance of this type of qualified medical care increases in genetically determined pathological processes, as well as in diseases associated with disorders of reproductive function and especially organogenesis.

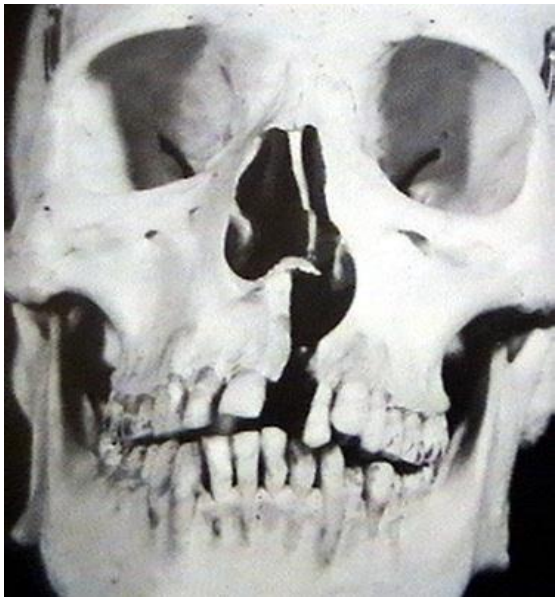
CHAPTER 4. CLASSIFICATION AND CLINICS OF CONGENITAL LAB AND PALATE LACK.

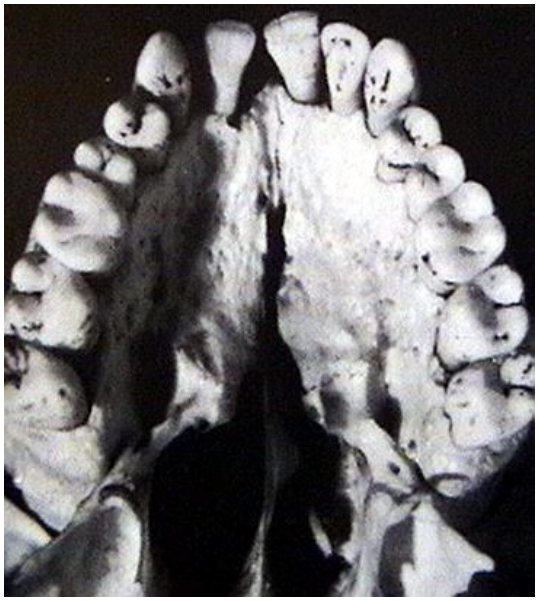
4.1. CLASSIFICATION OF CONGENITAL LAB AND PALATE LACK.

There are many classes of facial defects. It is convenient to distinguish six main types of facial cleftness in the prenatal period: I - lip cleftness without cleft palate; II - unilateral cleft lip and palate; III - bilateral cleft lip and palate; IV - middle cleft lip and palate; V - cleft palate without cleft lip; VI - rupture associated with amniotic cord syndrome.

According to the results of S. Berge et al., who conducted a study in the Department of Prenatal Diagnostics and Therapy of the University of Bonn, out of 70 cases of UC, 3 (4.3%) were of type I defect, 25 (35.7%) - of type II, 29 (41.4%) - of type III, 11 (15.7%) - of type IV, and 2 (2.9%) - of type VI. In our studies, out of 56 cases of UC, type I defect was detected in 2 observations (3.6%), type II - in 34 cases (60.7%), type III - in 14 cases (25.0%), type IV - in 4 cases (7.1%), and type V - in 2 cases (3.6%). Thus, unilateral and bilateral clefts of the lips and palate predominate among UC.

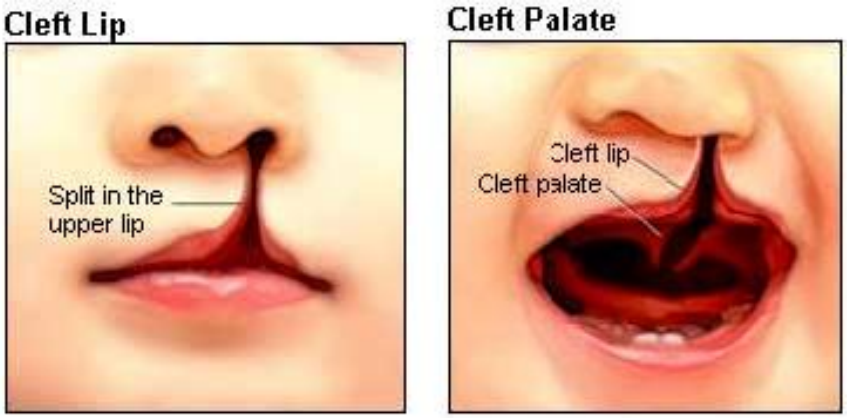
Figure 4. Adult skull LTTK

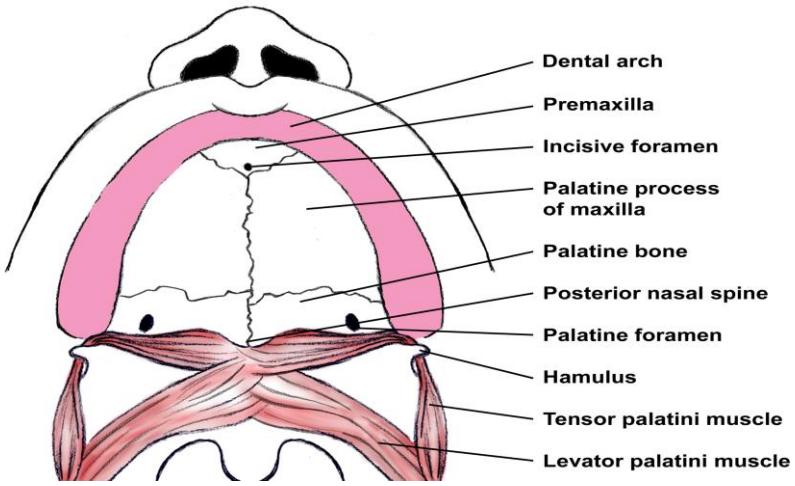




WHAT DO YOU NEED TO KNOW FOR A DIAGNOSIS?

3-sxema.

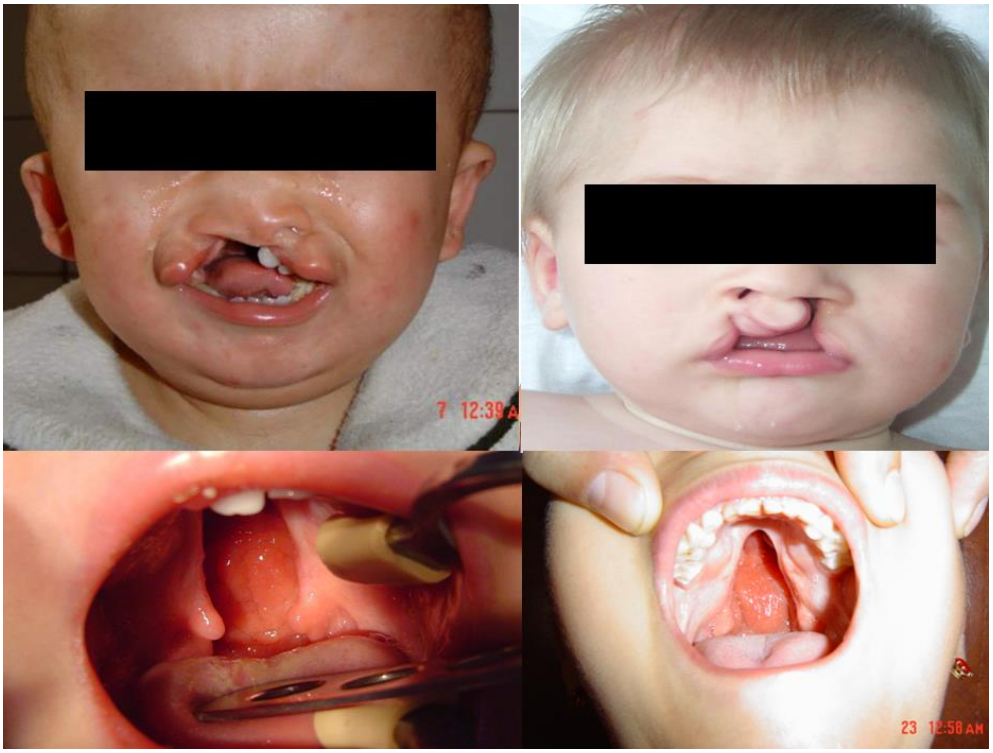




Latent cleft lip - characterized by the absence of damage to the integrity of the lip skin. There is vertical compression of the skin from the side, beneath which a division of the orbicularis oris muscle is revealed. The defect is noticeable in functional load (crying, laughing, conversation, etc.). An incomplete cleft is characterised by the presence of a cleft on the upper lip that does not reach the nasal cavity. The lips do not adhere only in the lower parts. In this pathology, there may be a deformity of the nose. **In complete individual cleft of the upper lip** - a cleft is detected in the upper lip tissues along its entire length - from the red border to the lower nasal cavity. In addition, deformation of the cutaneous-cartilaginous part of the nose is observed. **In unilateral cleft lip -** flattening and stretching of the nasal wing on the affected side. Two parts are distinguished - large (medial) and

small (lateral). The tip of the nose is displaced towards the diseased side, the nasal opening is wide on this side, and the nasal wall is curved towards the healthy side. In bilateral complete cleft of the upper lip - the lip is cleft to the right and left of the filtrum. Three parts are distinguished. The middle part of the lip is shortened. Both wings of the nose are stretched and flattened.

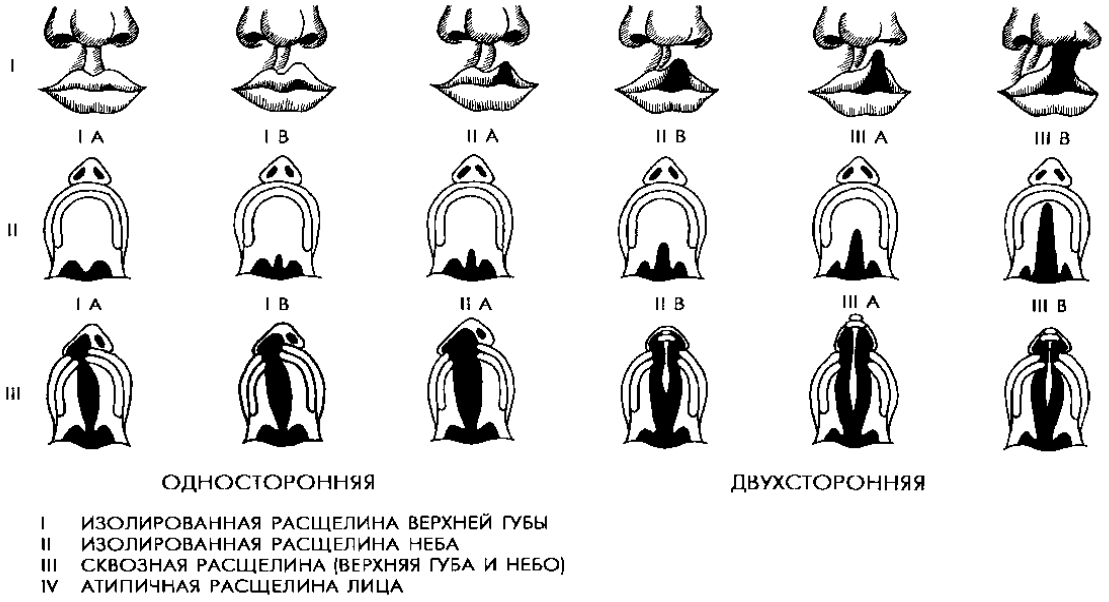
Figure 4. Types of congenital cleft lip and palate.



Anatomical disorders in congenital individual clefts of upper lip:

1. Cleft lip (open or hidden).
2. Contraction of the upper lip.
3. Cutaneous-cartilage deformity of the nose.

Diagram 4. Classification of congenital defects in the development of the face and jaws according to L. Y. Frolova, 1973.



Anatomical disorders in congenital individual clefts of the palate:

1. Presence of cleft palate;

2. Contraction of the palate with incomplete development of the palatine plates;

3. Expansion of the pharyngeal ring (oral-pharyngeal).

In our work, we use the clinical and anatomical classification of L. Y. Frolova (1973).

1. Separate cleft lip

2. Separate cleft palate

3. Transitional cleft lip and palate

4. Unusual facial cleftness.

The first three groups have an indicator of the degree of defect.

The degree indicates the magnitude and nature of the deformation. With increasing degree, the depth of the cleft increases. Depending on the degree, corresponding deformation is also determined in the surrounding tissues. Thus, with an increase in the degree of upper lip cleftness, nasal deformation becomes more pronounced.

Changes in the pharyngeal ring are determined depending on the degree of cleftness. The higher the degree of individual cleft palate, the

wider the pharyngeal ring. As the child grows, the appearance of these dimensions can change.

Ia - latent cleft margin of upper lip

Ib - cleft margin of the upper lip

IIa - red border of upper lip and 1/3 skin cleft

IIb - red border of upper lip and skin cleftness of 1/2

IIa - red border and skin cleftness. Only the skin ligament remains in the area of the base of the nasal opening.

IIIb - red border, skin, alveolar process defect.

In all forms of clefts on the upper lip, the circular muscle of the mouth is cleft, these changes increase with increasing severity, and in the third degree, it divides into areas of cleft along its entire length.

In unilateral cleftness, the side and degree are indicated, in bilateral cleftness - only on one and the other side.

In all forms of cleft palate, there is a cleft of the soft palate muscles to one degree or another. The higher the degree of defect, the more pronounced the defect. In forms IIa, IIb, IIIa, IIIb, the soft palate muscles are completely deformed.

A separate cleft palate has the following degrees:

Ia - latent cleft of tongue

Ib - open cleft of tongue

IIa - cleft lip, soft palate, hard palate 1/3

IIIa - cleft tongue, soft palate, hard palate 1/2

IIIb - cleft lip, soft palate, and hard palate up to the incisor.

Transitional clefts (lips and palate) are divided into unilateral and bilateral. In turn, each group is divided into three levels.

Unilateral transitional clefts are divided into the following three levels:

I. Cleft lip, alveolar process, hard and soft palate. The size of the cleft in the area of the alveolar process does not exceed 5 mm.

II. Cleftness of the same tissues, the cleft in the alveolar process is on average 1.2+1.4 mm. In the frontal section, most of the maxilla is displaced outward by up to 9 mm.

III. - also a transitional cleft of the upper lip and palate. The gap is on average equal to 1.3+1.6 mm. A large part is cut at the base of the wall. At this level of cleftness, the maxillary arch does not develop to the size of the gap between the parts.

Bilateral transitional clefts are divided into three levels:

I. - upper lip, right and left alveolar processes, bilateral cleft palate. The intermaxillary bone is displaced forward by 8-10 mm, the distance between the lateral parts and the intermaxillary bone does not exceed 4-5 mm on each side.

II. - upper lip, alveolar process, bilateral cleft palate. The intermaxillary bone is slightly displaced downward and protrudes to 4.2+1.8 mm. The size of the right and left clearances is 10-15 mm.

III. - the same defect. The intermaxillary bone also protrudes forward by 20-30 mm. However, the lateral parts are densely adjacent to the nasal bone, there is pronounced protrusion of the intermaxillary bone, and there is an imbalance between the size of the intermaxillary bone and the lumen in the anterior part of the alveolar arch.

In the tenth revision, congenital cleft lip and palate according to the International Classification of Diseases (ICD-10).

Cleft lip and palate (Q35 - Q37)

Exception: Robin syndrome (Q87.0)

Q35 Cleft palate [wolf's palate]

Insertion: palatine fissure

Cleft palate

Exception: cleft palate and lip (Q37.-)

Q35.0 Bilateral cleft of hard palate

Q35.1 Unilateral cleft of hard palate

Q35.2 Bilateral cleft of soft palate

Q35.3 Unilateral soft palate cleft

Q35.4 Bilateral cleft of hard and soft palate

Q35.5 Unilateral cleft of hard and soft palate

Q35.6 Middle cleft palate

Q35.7 Lingual cleft

Q35.8 Double-sided cleft palate [wolf palate] unspecified

Q35.9 Cleft palate [wolf palate] unspecified unilateral

Q36 Lip cleft [rabbit lip]

Included: cleft lip

Rabbit lip labiumleporinum

Exception: *cleft lip and palate (Q37.-)*

Q36.0 Bilateral cleft lip

Q36.1 Median cleft lip

Q36.9 Unilateral cleft lip

Q37 Cleft palate and lip [rabbit and wolf palate]

Q37.0 Bilateral cleft lip and hard palate

Q37.1 Unilateral cleft lip and hard palate

Q37.2 Bilateral cleft lip and soft palate

Q37.3 Unilateral cleft lip and soft palate

Q37.4 Bilateral cleft lip and hard and soft palate

Q37.5 Unilateral cleft lip and hard and soft palate

Q37.8 Unspecified bilateral cleft palate and lip

Q37.9 Unspecified unilateral cleft palate and lip

CLINICAL AND ANATOMIC CLASSIFICATION OF LTTK MMSI:

Congenital cleft lip:
1. Congenital latent cleft lip
a. unilateral
b. bilateral
2. Congenital incomplete cleft lip
a. without deformity of the cutaneous-clavicular region of the nose (unilateral, bilateral)
b. with cutaneoclavicular deformity of nose (unilateral, bilateral)

3. Congenital complete cleft lip
a. unilateral
b. bilateral
Congenital cleft palate:
1. Congenital cleft palate:
a. hidden
unfinished
p. full
2. Congenital cleft of the soft and hard palate:
a. hidden
unfinished
p. full
3. Congenital complete cleft of the soft, hard palate and alveolar process:
a. unilateral
b. bilateral
4. Congenital cleft of the alveolar process and anterior part of the hard palate:
unfinished (unilateral, bilateral)
b. full (unilateral, bilateral)

4.2. ANATOMICAL AND FUNCTIONAL DISORDERS OF CONGENITAL DEFINITIONS OF THE LIPS AND NEBBA.

Anatomical and functional disorders in cleft palate. From anatomical disorders of the structure of the palate, three main ones can be distinguished, leading to severe functional disorders and requiring surgical correction: cleft palate, shortened soft palate, and dilated middle part of the pharynx.

Clefts of the palate can vary in anatomical shape and size. The mucous membrane develops, and latent clefts occur, which can be located only within the muscle layer of the soft palate or within the bone tissue of the hard palate. Also, only clefts of the soft palate are observed, which can be incomplete or complete. The incomplete clefts of the soft palate do not reach the border with the hard palate. The visible part of the complete cleft of the soft palate reaches the posterior edge of the hard palate and is often accompanied by the latent absence of development of the posterior part of the hard palate. Clefts of the soft and hard palate are distinguished, which can also be incomplete or complete. Complete clearances extend to the cutting slit. Clefts of the soft and hard palate are always

located along the midline of the palate. At the same time, the base of the nasal bone lies freely, not attached to the palatine plates.

In cases of cleft palate, in addition to maxillary deformity, congenital underdevelopment of the soft palate and middle part of the pharynx is revealed. The soft palate is short, the weakly developed palatine muscles are not interconnected along the midline.

When the palatine muscle contracts, the transverse dimensions of the cleft increase, which leads to speech and swallowing disorders. With age, due to the lack of proper functioning, the insufficiency of the soft palate and pharyngeal muscles increases. The severity of the disorders is less dependent on the size of the cleft palate. Incompleteness of the soft palate and pharyngeal muscles is observed even in latent clefts, which is not taken into account by some doctors in the treatment of this pathology.

From the first days of a child's life, disorders of sucking and swallowing function are detected. In a child with cleft palate, the oral cavity freely connects with the nasal cavity, which makes it impossible to create a tight seal in the oral cavity during sucking. The baby does not breastfeed the mother, it is easily blocked during artificial feeding, which can lead to the aspiration of liquid food.

The connection of the nasal and oral cavities during inhalation leads to the free entry of external air into the upper respiratory tract. Children become accustomed to shallow breathing without taking deep breaths and exhaling slowly. In young children, superficial breathing is compensated by an increase in respiratory rate per minute. However, with age, this compensation is disrupted, since superficial, slow breathing leads to insufficient development of the respiratory muscles and a decrease in the vital capacity of the lungs. Incomplete external respiration causes a predisposition of children to inflammatory diseases of the upper respiratory tract and lungs. Slow exhalation later negatively affects the child's speech development. Children with cleft palate pronounce words in an unclear, low voice. In cleft palate, the palate, palato-tongue, and all hissing sounds are pronounced incorrectly. Speech involves an expressive nose (open rhinolalia).

Constant ingestion of liquid and soft food from the oral cavity into the nasal cavity causes irritation of the nasal mucosa and nasopharynx, which leads to the development of persistent foci of chronic inflammation in this area. Inflammation of the auditory tube, chronic otitis media, often leads to hearing loss. Incomplete external respiration and chronic foci of infection in the upper respiratory tract negatively affect the child's overall development.

Anatomical and functional disorders in unilateral transitional cleft lip and palate. Manifestations of congenital unilateral cleft lip and palate: cleft lip, contraction of the columella, drooping and flattening of the nasal wing on the side of the cleft, deformity of the maxilla. The cleft passes through one of the side points of the splitting Cupid bulb. One part of it moves to the side, where it is well expressed, the other remains in the larger part, but ascends. The greater part of the lip protrudes forward, the lesser part is depressed. The cleft of the alveolar process runs along the lateral cutting line, and the alveolar process divides into two parts: small - lateral and large - central; in this case, deformation of the dentofacial arch is manifested. An anomaly in the position of the alveolar processes is observed. The small part sinks, the oral part shifts. The large, central part is cut at the base of the wall, displaced forward, vestibular up to 9-12-15 mm, thereby distorting the shape of the alveolar arch. Along with the alveolar process, the teeth also shift; they occupy an anomalous position. The mammary glands, located on the lateral sides of the cleft, are shifted above the vestibular and occlusal plane and at an angle to it, rotating around the transverse longitudinal axis.

Disruption of functional activity in the dislocated muscles of the upper lip is of great importance. If normally the circular muscle of the mouth appears as a muscle ring, then in the cleft, the muscle fibers are separated, located along the edges of the cleft, directed upwards, ending at the base of the columella and wing of the nose. The main morphological changes in congenital clefts of the upper lip and palate are the attachment of the upper bundle to the base of the deformed wing of the nose, changing the direction of the deep muscle layer of the circular muscles of the mouth on the side of the cleft, and the upper bundle from the medial part - on

the side of the cleft, to the medial peduncle of the winged clavicle. In addition, as the edges of the cleft approach the points of connection, their thinning and subsequent atrophy are noted.

In unilateral incomplete clefts of the upper lip, muscle fibers often do not reach the philtrum or prolabium. If the skin bridge is half or 2/3 of the lip in height, then some of the muscle fibers enter the prolabium in a peculiar way, but their number decreases in the anterior and posterior direction. Often, in congenital clefts of the upper lip and palate, incomplete development of the lateral part of the maxillary arch and its displacement outward and upward, incomplete development of the edge of the pear-shaped slit are observed. On the side of the cleft, due to bone deficiency in the maxillary region, the base of the nasal wing descends and falls, and when the transverse fibers of the nasal muscle contract, due to a change in the points of fixation, a "contraction" of the aponeurosis of the covering occurs, forming a "comb" layer between the upper edge of the lateral pedicle of the greater cartilage of the nasal wing and the lower edge of the lateral cartilage. When the relationship between the maxilla and the quadrigonal cartilage is disrupted, it exits the groove of the nasal bone, resulting in its displacement to the healthy side. This leads to weak stimulation of maxillary growth in the anterior and posterior direction, but also to a change in the configuration of the soft tissues. By the time a child is born with a transitional unilateral cleft of the upper lip and palate, typical deformities are formed in all parts of the nose and wall. The characteristic asymmetry of the tip of the nose is explained by the dystopia of the greater pterygoid cartilage on the affected side. In this case, the medial pedicle of this cartilage, along with the covering and columella, is located significantly below normal. The lateral pedicle of the diseased wing cartilage differs little in size and density from the normal cartilage, but it is also dystopian and displaced posteriorly and laterally, along with the base of the wing, to the incompletely developed edge of the pear-shaped slit. At the same time, the posterior edge of the lateral peduncle deviates from the triangular cartilage, forming a funnel-shaped depression behind the flattened wing of the nose, and its anterior edge, together with the cartilaginous

arch, moves forward and downward, forming a hooked hang of the wing and tip of the nose. The base of the columella is drawn into the underdeveloped half of my filter, and its upper part, along with the tip of the nose and the cartilaginous part of the wall, is displaced to the healthy side. The cartilaginous part of the nasal cartilage and the bony pyramid, formed by triangular or upper lateral cartilages, along with the axis of the nasal cartilage, are tilted to one degree or another to the healthy side. In this case, the flattened winged cartilage partially enters the midline along with the wall into the normal half of the face.

The wider the cleft of the upper lip, the more spread and stretched the flat wing, and the nasal cleft can be transverse-oval or slit-like, with its edges smoothly transitioning into the lip. The stretched, diseased wing of the nose creates a false impression of an excessively widened nostril on the side of the cleft.

As a rule, despite the asymmetry of the nostrils, in all types of unilateral clefts of the upper lip and palate, the perimeter of the nostrils is the same on both sides, with the exception of rare cases of congenital wing underdevelopment and nostril stenosis. A congenital defect of the nasal floor occurs only in patients with a transitional cleft (A. A. Limberg, 1968; D. R. Millard, 1976), it is practically absent in incomplete and partial clefts of the upper lip. However, after incorrectly performed primary cheiloplasty, which involves reduction of the nasal passage in the transverse width of the nasal passage, a real defect of the covering forms at the bottom of the nasal vestibule, which should be kept in mind when performing reconstructive operations.

Studying the mechanism of the formation of nasal deformity in unilateral congenital cleft lip and palate, I. V. Berdyuk (1963, 1985), S. J. Stenstrom and T. R. N. Oberg (1961) experimentally and clinically proved that in this defect, flattening of the wing and tip of the nose, in addition to incomplete development of the pear-shaped foramen, is caused by tension and defect of the base tissues in the vestibule of the nose in the upper third of the lip. In patients with unilateral congenital cleft lip and palate, severe deformation of the middle area of the face develops, manifested by anomalies in the shape and position of the frontal teeth,

deformities in the dentition, jaw, and bite (B. N. Davydov, 1999, 2000).

The degree of deformation in the middle part of the face, dentition, and bite depends on age. At one year of age and older, with the presence of milk teeth, deformation increases. Along with the alveolar process, the teeth are also displaced, occupying an anomalous position. The mammary gills, located along the sides of the cleft, are often shifted upwards from the vestibular and occlusal plane, rotating at an angle to it, sometimes around the transverse and longitudinal axes. In the presence of permanent teeth, secondary deformities are exacerbated if the congenital defect is not treated surgically. Permanent frontal teeth, located in accordance with the defect, cut abnormally. They are vestibularly inclined towards the cleft and axially twisted. In some patients, it develops not only in the upper but also in the lower jaw, which is expressed in its strong development in the frontal part. Such deformities are observed in a defect that has existed for a long time, developing in place of the defect when there is no pressure on the tongue, no obstacle to the movement of teeth and alveolar processes from the lip side. The pressure of the cheeks is the reason for the displacement of the lateral part towards the mouth (I. V. Berdyuk, 1961; A. A. Limberg, 1968; A. N. Gubskaya, 1975; E. U. Makhkamov, 1981).

Thus, with unilateral congenital cleft lip and palate, deformation occurs not only of the upper lip, alveolar ridge, and palate, but also of all other tissues and organs of the middle facial region, which leads to ugliness and varying degrees of functional impairment.

Anatomical and functional disorders in bilateral transitional cleft lip and palate. The most severe forms of clefts are congenital bilateral clefts of the upper lip, jaw, and palate, which constitute approximately 15-35% of defects in the maxillofacial region and are distinguished by a complex and interconnected pathology involving the organs and tissues of the middle facial region, performing various functions such as breathing, chewing, speech, facial expressions, and others. Bilateral congenital clefts are characterized by clefts of the upper lip and palate, separation of the circular muscle in the mouth, pronounced

underdevelopment of the central part of the upper lip (prolabium), congenital shortness of the nasal wall or absence of the cutaneous part (columella), varying degrees of protrusion of the intermandibular bone (predmaxillary) and underdevelopment of the upper jaw. In bilateral clefts, the predmaxillary position begins on the 45th day of pregnancy (i.e., 10 days after the formation of the cleft, which occurs at 35 days of age). This protrusion grows rapidly for 25 days and reaches the same level as in a newborn with this pathology at 70 days (10 weeks).

In the body of a child with a congenital bilateral cleft lip and palate, along with changes in the general condition, significant changes in the maxillofacial complex are detected from the first minutes of life. The degree of deformation of the upper jaw directly depends on the type and severity of the cleft. The degree and severity of maxillary deformity in bilateral clefts of the upper lip and palate, as well as difficulties in the treatment of this pathology, are largely associated with protrusion of the intermandibular bone. It is the prominent or standing pre-maxillary bone, first of all, determines the complexity of the surgeon's tasks in eliminating the cleft lip and can have a significant negative impact on the outcome of the operation.

At birth in a newborn with bilateral facial cleft, the intermaxillary bone, together with the central part of the upper lip (prolabium), has one degree or another of convexity compared to the upper jaw and lateral parts of the lip. Rapid anterior growth of the cartilage wall, excessive bone growth at the border between the sphenoid bone and the pre-maxillary bone, anterior enlargement of the pre-maxillary bone due to the attachment of the septo-pre-maxillary junction to the nasal wall in the postembryonic period continues until about three years of age, and the intermaxillary bone moves even more forward and downward, often taking a horizontal position. G. Muhlen's confirmation that the growth of the suture between the nasal bone and the pre-maxillary bone and its penetration into the bone occurs approximately in the fourth-sixth month after birth is interesting. Then it is impossible to cover the protruding incisive bone with orthodontic means.

According to L. E. Frolova, three degrees of convexity of the intermaxillary bone are distinguished: I degree - the intermaxillary bone is located in the maxilla

at the level of the arch of the alveolar processes; II degree - slight bulging of the intermaxillary bone; III degree - premaxilla sharply protrudes forward.

Using the above classification, depending on the area of the intermaxillary bone, Abdukalalova D. proposed the following classification of conditions in the maxillary regions:

1. Overdeveloped intermaxillary bone;
2. Moderately developed intermaxillary bone;
3. Underdeveloped intermaxillary bone.

Clinical, radiological, and anthropometric studies conducted by G. B. Bitekenova from infancy to adolescence revealed that congenital clefts of the upper lip and palate lead to incomplete development of the upper jaw in all three mutually perpendicular planes: narrowing of the upper dental arch by 5.1-7.1 mm; reduction in the length of the anterior part of the upper jaw by 4.8-6.8 mm; reduction in the length of the body of the upper jaw by 3.4 mm. As a result, a complex complex of anatomical and functional disorders develops, which deepens as the child grows. In children with congenital cleft lip and palate, incomplete development of the upper jaw is accompanied by an increase in the size of the body of the mandible, which is evidenced by an increase in the length of the mandible, an increase in the angle of relationship of the mandibular bases, an increase in the anterior and posterior vertical dimensions, which aggravates the existing deformation of the dentofacial system.

Influence of congenital cleft lip and palate on the child's overall development. Congenital cleft lip and palate (CCLP) is one of the most common human developmental defects and is accompanied by severe anatomical and functional disorders from the first day of a child's life. The presence of a congenital defect in the upper lip and palate puts the child from the moment of birth in an unfavorable living environment compared to healthy children. The complex medical and social adaptation of a child with such a pathology can be explained not only by a cosmetic defect, but also by disorders of vital functions - respiration, sucking, swallowing, and subsequently speech and hearing.

According to L. E. Frolova, a child born at term with normal weight, complete cleft lip and palate, in the first days after birth does not differ at all from normal children, except for severe combined injuries.

Breastfeeding such children presents certain difficulties, as they cannot properly suck and swallow. Milk flows from the nose, the child cannot gain enough weight, and in most cases, milk aspirates into the respiratory tract. In some cases, when the baby is brought to the breast on its healthy side, it takes the nipple from the side and closes the opening with its tongue, thus partially adapting to breastfeeding. However, in this case, part of the milk flows out during breastfeeding. As a result, the child sometimes loses up to 500-600 g. The incidence of dystrophy increases as a result of the child's persistent malnutrition.

Clefts of the lips and palate are the cause of frequent colds due to the lack of separation of the nasal and oral cavities, which creates conditions for respiratory tract infection. Inhaled breath does not warm up and does not clear. This leads to frequent inflammation of the mucous membrane, which spreads to the middle ear, bronchi, and lungs. A severe course of ARVI (bronchitis, sinusitis, lymphadenitis, pneumonia) is registered 2.5 - 3 times more often. Chronic pharyngitis is widespread. In addition, the development of pneumonia at an early age causes anatomical and physiological features of the respiratory organs in children: short, very narrow upper respiratory tract, sweating of the walls of the trachea and bronchi, rich, widely branched vascular and lymphatic network in the lungs, excess interstitial fibrous tissue, and insufficient development of elastic tissue in the bronchi.

Children with congenital developmental defects of the maxillofacial region suffer from a wide variety of concomitant pathologies (functional cardiopathies and heart defects, kidney diseases, immune system disorders, lung diseases, CNS pathology).

Studies of school-age children with rhinolalia showed that 75% of them had a predisposition to diseases of the ENT organs. Hearing impairment occurs as a result of pathological processes in the sound-conducting and sound-receiving parts

of the speech apparatus. The transition of the inflammatory process from the mucous membrane of the nose and pharynx to the mucous membrane of the Eustachian tube leads to inflammation of the middle ear, which, in turn, is the cause of persistent hearing loss. Decreased hearing is most often observed in children with adenoid processes, curvature of the nasal wall, hypertrophy of the nasal cavity, and enlarged tonsils. Taking this into account, it is necessary to remember that when performing corrective actions on children with congenital clefts of the upper lip and palate, the joint work of an otolaryngologist and a speech therapist is necessary. Before surgery, it is necessary to conduct sanitation of the ENT organs.

In addition to the disorders mentioned above, many scientists point to disorders of the central nervous system. Based on the data of a comprehensive study of children with congenital cleft lip and palate aged 3 to 14 years, the following figures are presented: "boundary" states were observed in 92% of cases (asternoneurotic syndrome, asthenic subdepression, hyperkinetic, hyperdynamic, and affective syndromes); In 80% of children, intracranial hypertension and hydrocephalus-hypertensive syndrome were detected.

In addition, various widespread neurological microsymptoms of a residual nature were observed: headaches, memory impairment, sleep disturbances, increased excitability, repetitive movements, sleepwalking, nervous tic, depressive mood, fears, crying, decreased motivation.

In children with congenital cleft lip and palate, the somatic condition is aggravated by numerous surgical interventions. Repeated use of anesthesia in the correction of congenital malformations and the effects of surgical injuries are often an additional stress state, leading to exacerbation of the existing combined pathology or manifestations of latent pathology.

Thus, rehabilitation of children with congenital cleft lip and palate should be carried out with the joint participation of a surgeon, orthodontist, speech therapist, pediatrician, otorhinolaryngologist, and psychiatrist. A comprehensive approach ensures the participation of specialists familiar with the specifics of children's

development, who know the issues of treatment and planning of patients, as well as the possibility of conducting scientific, organizational-medical, and sanitary-educational work aimed at improving the provision of specialized care.

CHAPTER 5. METHODS OF SURGICAL TREATMENT OF CONGENITAL DEFINITY OF THE UPPER LIPS AND PALATE

Currently, the optimal age for lip plasty is 4-6 months. The choice of one or another operation depends on the defect's form and the surgeon's preference for one or another method. Primary rhinocheiloplasty is a complex type of surgical intervention. In addition to restoring the shape and function of the upper lip, this operation is aimed at correcting the nasal cartilage and eliminating the defective position of the muscles in the parotid region. Along with restoring the continuity of the upper lip, eliminating the defect in the nasal cartilage, forming a full-fledged state of the muscles surrounding the mouth, in most cases, it is necessary to solve the tasks of eliminating undeveloped areas in the anterior part of the upper jaw on the side of the alveolar process and defect (rinocheilognatoplasty).

5.1. SURGICAL TREATMENT OF CONGENITAL DEFINITY OF THE UPPER LIPS

To fully restore the anatomically correct shape and function of the lip: 1) eliminate the cleft; 2) lengthening of the upper lip; 3) correct the shape of the nose. The methods of lip plasty used by surgeon-dentists today can be divided into three groups depending on the shape of the incisions on the skin of the lips. In a unilateral congenital cleft lip, the curved position of the muscle fibers along the direction of the base of the nasal wall and wing should be changed to a physiologically correct - horizontal position.

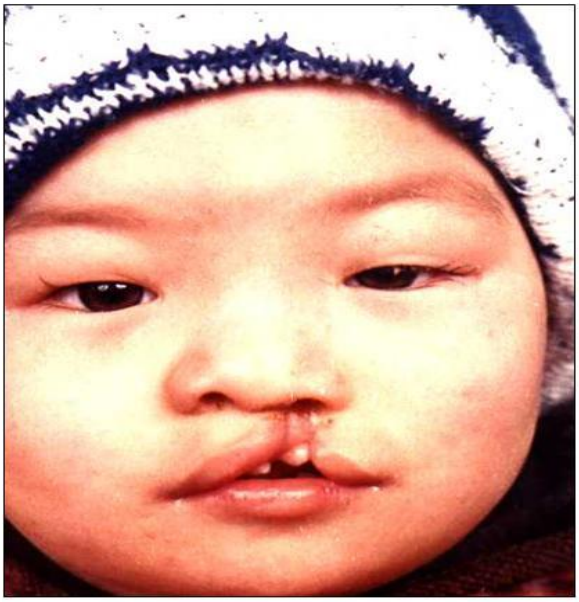
The first group includes linear methods: Yevdokimov, Limberg, Millard. When suturing the edges of the cleft in a straight line according to the method of A. A. Limberg (1952), V. Veau (1938), J.V. Brown, F. McDowell (1941, 1951) and others, the position of the muscle bundles on both sides of the postoperative scar remains in a curved-vertical position. An exception is a subgroup of fibers that are transposed to a horizontal position, corresponding to the red border of the lateral segment of the lip, along with the hanging section of Mirault.

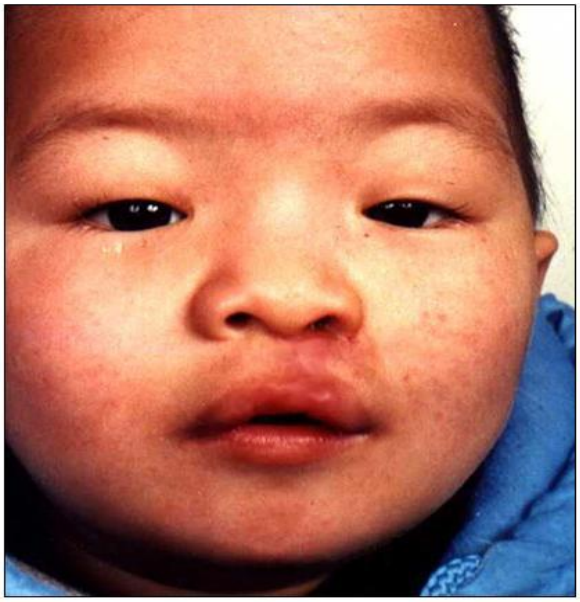
Diagram 5. Operation according to D.R. Millard's method

A similar picture can be observed in other types of Mirault surgery. The Mirault method has a number of drawbacks: it does not form a straight Cupid arch, flatens the lips, and does not sufficiently correct nasal deformation. Nevertheless, this method served as the basis for new, improved methods (1967).

Vertically positioned muscle bundles are more effectively transposed to a horizontal position on both sides of the cleft using a rotational incision in the medial part and an upper lateral angular incision according to D. R. Millard (1957, 1976). At the same time, it is possible to achieve an almost ideal "end-to-end" connection of muscle bundles. The essence of the Millard method is that the medial circular section moves downward, while the lateral displacement section moves medially to restore the upper lip. Due to rotational and reverse incisions, the direction of the fibers in the orbicularis oris muscle is corrected, they transition from a curved position to a horizontal one and are sutured by the lateral part of the muscle in a physiological position. For unilateral elongation of the columella, a small incision is attached to its base, which moves from the membranous part of the wall together with the medial peduncle of the cartilage of the flat wing and is moved upwards to the lateral surface of the wall using a releasing incision.

Patient image before and after cheiloplasty according to the Millard D. R. method





An important aspect of the operation, according to Millard, is the incision of the anomalous attachment of the orbicularis oris muscle to the maxilla and the replacement of the coverage deficiency and the transplantation of the anomalously attached wing using a "toreador" incision according to Mir y Mir (1957) with a red border. Paying great attention to the complete restoration of the circular muscles of the mouth, the author uses various variants of incisions for muscle tissue deficiency in both lateral and medial muscle sections (Millard D.R., 1976; Ness J.A., Suces J.M., 1993). The presented method allows for the restoration of lip height and obtaining a good anatomical shape. According to proponents of this method, its application allows to give the regenerated upper lip a shape close to normal, significantly correct the lateral deformity of the nose, and obtain good functional results. Reconstructive operations can be easily repeated, since the maximum lip tissues are preserved, and if repeated cheiloplasty is necessary, the operation can be performed in the direction of these incisions. I. A. Kozina (1967, 1968, 1969, 1974, 1997) proposed his modification of the Millard method for primary cheiloplasty with a wide cleft of the upper lip and palate. Unlike Millard, I. A. Kozin proposed to lengthen the S-section due to the area of the red border of the medial part when performing peri-nasal plasty, and to perform plasty with triangular sections on the red border.

According to Ness J.A., Suces J.M. (1993), the Millard method provides good access to the lateral cartilage and the greater cartilage of the nasal wing. The rotation and shift method gained a large number of supporters, but critical opinions also emerged. Thus, R.N. Cliford and R. Pool (1959) noted that with a complete cleft, it is necessary to cut a large number of red borders in the lateral part of the lip to obtain a sufficient height of the vertical part of the incision. In this case, two adhesion lines are formed: at the base of the nasal vestibule and at the skin-mucous border. To the disadvantages of the method, the authors include partial retraction of the arcuate scar, which causes the red border to be pulled upwards. In complete wide clefts, accompanied by a significant tissue deficit and a decrease in height, good results cannot be achieved, and Millard himself suggests performing primary lip adhesion in such cases.

R. D. Novoselov, B. N. Davydov (1984) believe that the Millard method (1958, 1960) allows for the formation of a full-fledged upper lip in anatomical, aesthetic, and functional terms. However, this method does not provide for a single correction of the wing cartilage. The proposed method proposes a one-time restoration of the continuity of the upper lip, correction of the cartilaginous part of the nose, elimination of defects and undeveloped areas in the frontal part of the upper jaw. For this reason, the method was called rhinocheilognatoplasty. Millard D. R. himself proposed the method of primary cheilorhinoplasty in 1990. The essence of the method is that a flattened wing cartilage is separated from the intercartilaginous incision and partially from the wing covering. The medial pedicle and groove of the diseased wing cartilage are separated from the covering and skin, and the healthy wing cartilage, cartilage wall, and triangular cartilage are sutured (Kozyn I. A., 1996; Millard D. R., Latham R. A., 1990).

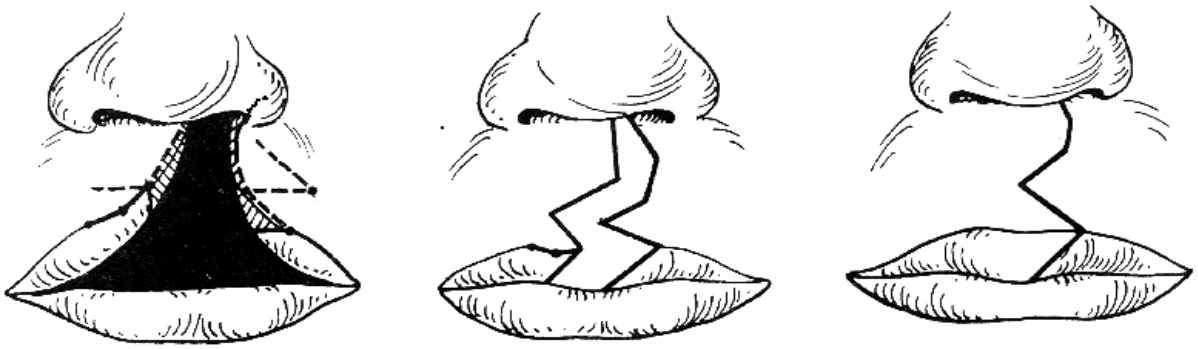
These methods differ in the method of forming the nasal vestibule in complete clefts of the lips. A positive aspect of the linear method is the aesthetics of the scar line, which coincides with the filtrum border. However, the presented methods do not provide the necessary elongation of the lip for wide complete clefts. After the scar is formed, half of the "Kupidon bulb" is pulled upwards,

violating the symmetry of the red border line. In addition, up to several months after plastic surgery, a triangular red border is observed growing along the mucosal scar.

The second group combines the methods proposed by Tennison (1952) and L. M. Obukhova (1955), based on the transfer of triangular skin sections of varying angular sizes on the skin of the lower third of the lip. Cutting operations involve closing the cleft by removing triangular and rectangular cuts, the size of which depends on the width of the cleft and the degree of contraction of the medial part of the upper lip (S. D. Ternovsky, 1952; A. A. Limberg, 1968; Novoselov R.D., 1978; J. D. Sidman, 1993). Among the cutting methods, the most successful is the operation developed by L. M. Obukhova (1955, 1957) and C. W. Tennyson (1952).

A method developed independently by the authors, but not at all different in essence. Its essence is the elongation of the underdeveloped inner column of the philtrum, the transfer of a triangular skin incision from the outer part.

Diagram 6. Operation according to the method of L. M. Obukhova - C. W.



Photograph of the patient, L. M. Obukhova - state before and after cheiloplasty according to the C.W. Tennison method.

The basis of L. M. Obukhova's method lies in the difference in the size of the filtrum on the affected and healthy sides. In these methods, a large amount of mucus of the red border is preserved, which allows avoiding flattening in the lower third of the lip and forming a straight Cupid's arch in compliance with the surgical technique.

At the same time, there are the following shortcomings: a noticeable zigzag scar on the lower third of the lip, drooping of the lip on the side of the cleft, deformation of the nasal cavity on the affected side, which complicates further corrective operations. Their disadvantage is the necessity of crossing the filtrum line in the transverse direction. Such a direction of the postoperative scar reduces the aesthetic result of the operation. For incomplete clefts of the upper lip without nasal deformation, it is recommended to use the indicated methods. In complete and incomplete clefts of the lip, accompanied by deformation of the cutaneous-cartilaginous part of the nose, a good anatomical and functional effect is achieved by combining the Limburg method with one of the described methods of the second group..

The third group includes the methods of Hagedorn (1884) and Le Mazurye (1962), in which the elongation of the lip is achieved by transferring a rectangular section taken from a small part of the lip. However, the rectangular section is inconvenient in the plastic surgery of incomplete unilateral clefts, which are less mobile and do not require extensive lip elongation. Upper lip plasty in bilateral clefts not accompanied by alveolar process and cleft palate. This operation is carried out using most of the methods described above, which are used separately for each party. In children with alveolar process and cleft palate, single plasty of bilateral cleft lip does not allow achieving a high functional and aesthetic result. This is hindered by the complex anatomical interrelationships of the jawbone and the lack of soft tissues. The upper lip has an irregular anatomical shape, is less mobile, and is connected by scars to the surface of the intermaxillary bone. As a result, due to the absence of the vestibule of the mouth, orthodontic treatment of such children is difficult.

Complications after upper lip surgery. Opening of the edges of the wound can occur after surgical intervention. The cause of this can be tension of the edges of the wound due to poor tissue adhesion, insufficient layered suturing of the tissues, the development of a postoperative inflammatory process in the wound, and trauma. In newborns, when the edges of the wound are separated, it is not recommended to apply secondary sutures, as this worsens the outcome of subsequent corrective operations. The final effect of the operation is determined by long-term results. A shallow scarring vestibule of the mouth can be considered a postoperative complication. Lip scars over the years exert excessive pressure on the alveolar process, causing flattening in the anterior part of the alveolar arch of the maxilla. Severe maxillary deformities are caused by cicatricial changes in the lip tissue in children with complete cleft lip, alveolar process, and palate. A poorly formed, shallow oral vestibule does not allow for orthodontic treatment and requires additional surgical interventions.

In primary cheiloplasty, the surgeon should strive for the following results:

• Restoration of the fullness of the circular muscles of the mouth.

• Formation of a symmetrical cupid bulb.

• Create the same height of the skin section on the lips and red border.

Restoration of the column on the flat side of the filter.

• Set the flat nose wing to normal level.

• Achieve the same perimeter of the nostrils.

• Create a vestibule of sufficient depth in the oral cavity.

In addition, it is necessary to achieve a natural appearance of the upper lip both at rest and in motion. Therefore, in primary cheiloplasty, it is very important to ensure the physiological arrangement of fibers in the circular muscles of the mouth as much as possible.

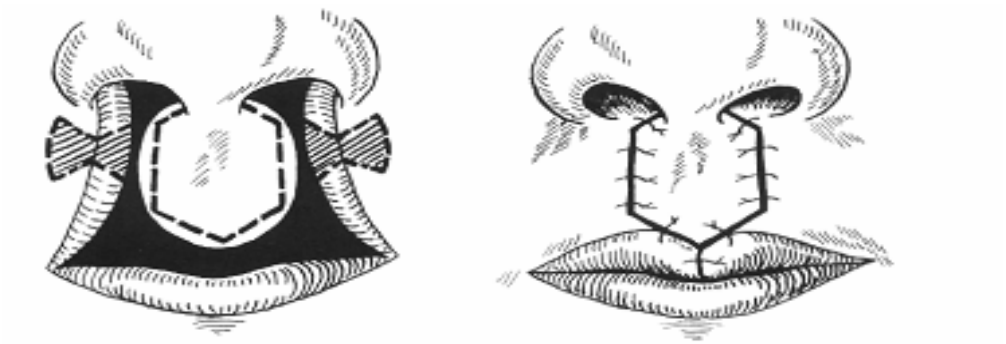
Upper lip plasty in bilateral cleft lip.

One of the complex problems in maxillofacial plastic surgery is the determination of indications for choosing one or another method of primary cheiloplasty for eliminating bilateral clefts of the upper lip and palate. The growth and development of the middle facial area, the formation of the child's appearance, and the effectiveness of final cheilorhinoplasty in adults and adolescents largely depend on the correct choice of the primary surgical method for the upper lip. Anatomical and cosmetic defects characteristic of deformities in the maxillofacial region after choosing the wrong method of surgery on the lips not only lead to impairment of vital functions such as breathing, chewing, speech, and facial expressions, but also negatively affect the patient's appearance, which leads to depression and significant changes in the patient's psycho-emotional state.

The result of primary cheiloplasty in bilateral clefts of the upper lip largely depends on the correct use of the central part (prolabium) of the upper lip, namely its cutaneous part and the tissues of the red border. The implementation of cheiloplasty in this pathology is associated with a number of problems, both local and general in nature. Local problems include: swelling of the intermandibular bone, underdeveloped prolabium, shortened columella, thickened nose, absence of

normal anatomical orientations, wide spacing between parts. Most methods for eliminating bilateral cleft lip are based on the methods described for unilateral cleft lip. Only individual methods have been developed for a special bilateral cleft, taking into account pronounced hypoplasia, columella, and deformation of the maxilla in the central part of the preoperative lip.

Diagram 7. Cheiloplasty according to the A. A. Limberg method



A group of domestic and foreign surgeons advocates for linear methods of eliminating bilateral cleft lip in one or two stages. Limberg A. A., Ternovsky S. D., Rauer A. E., Cronin T. D. Methods.

Vertical scars on both sides of the prolabium are most convenient for concluding heylorhinoplasty in adults. For the elimination of bilateral cleft lip, the heyloplasty methods of L. M. Obukhova and C. W. Tennison were used, which involve two-stage transfer of the lower lateral triangular sections to the lower third of the prolabium.

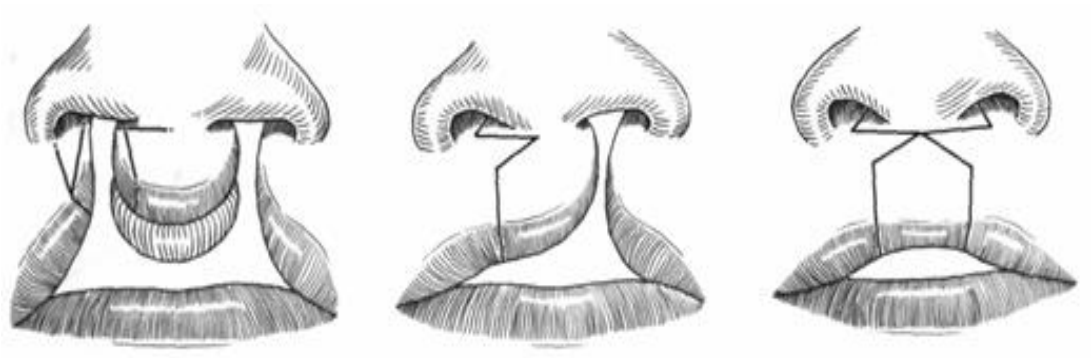
Diagram 8. Operation according to the method of L. M. Obukhova and C. W. Tennyson

F. Zagirova, using the Obukhova-Frolova method, functionally and clinically studied the influence of cheiloplasty on the condition of the dentofacial system in the long term, the role of deformation of the upper lip after cheiloplasty

in the development of occlusion deformation. It is advisable to use upper lip plasty according to the Obukhova-Frolova method to prevent deformities in the dentofacial system in transitional clefts of the upper lip and palate, which not only restores the anatomical integrity of the upper lip but also leads to the normal development of the upper jaw and bite.

Siplakova M. S. used the Hagedorn-Barsky-Limberga method with Z-plastics of the comb-like layers of the wings of the nose according to Znamensky as the choice of the primary surgical method for a bilaterally symmetrical transitional cleft lip with an underdeveloped prolabium. When the proliabium is not fully developed, many surgeons use a modification of S. Hagedorn's operation to restore the sufficient height of the central part of the lip. Its principle consists of completing the prolabium using two rectangular cuts taken from the lower lateral sections of the lip and joining them together under the exposed lower edges of the prolabium. One of the first few methods, described for the correction of bilateral clefts in two stages, which was subsequently used for cheiloplasty of unilateral clefts, is the Wynn lateral incision method.

Diagram 9. Wynn operation



After any method of primary bilateral cheiloplasty, the tip of the nose grows under unfavorable conditions, as it is retracted to the upper lip due to the congenital underdevelopment of the colimellane.

Therefore, until recent years, surgeons have been developing a method of

primary bilateral cheilorhinoplasty, striving to create the best conditions for the growth of all elements of the upper lip, nose, and columella. Davydov B. N., Pshenisov K. P. proposed their method of rhinocheiloplasty with the accumulation of a bifurcated skin incision to lengthen the columella in the open lumen for rhinoplasty. To ensure the expected result, the authors used cartilaginous "stropils" between the medial peduncles of the lower lateral cartilages and under their lateral peduncles, resting on the edge of the pear-shaped slit. Functional and aesthetic results were obtained in 87.5% of observations.

Today, many modern surgeons pay special attention to the latest, anatomically justified, combined surgical and orthopedic methods, described in 1990 by D. R. Millard and R. A. Latham, for the elimination of bilateral transitional clefts with a wide and small prolabium.

Primary bilateral cheilorhinoplasty in the broad proliabium. The first stage of the operation concludes with bilateral cheiloplasty according to the modified method of M. M. Duffy (1971). On both sides of the wide prolabium, two triangular skin cuts with a base in the columella are taken. In the lateral parts of the cleft, with the help of angular incisions, skin-muscle-mucous sections are made in the upper lateral area, which are sutured layered to the exposed edges of the prolabium. In this case, the crest of the circular muscles of the mouth is sutured with transitional mattress ligatures made of non-absorbable material. After sufficient immobilization, in the incision at the base of the nose, triangular skin cuts are sutured from the jaw to the base of the nasal wings, taken from the prolabium to the "bank."

In the lower third of the lateral parts of the cleft, rectangular sections are made, passing through the red border with the stripes of the white roller, adjacent muscles, and mucous membrane. Rectangular cutaneous muscle-mucous sections, equal to the ground of the exposed edge of the prolabium, are sutured together, forming the middle protuberance of the Kupidon bulb, the red border, and partially the vestibule of the mouth. From 2 to 4 years of age, the second stage of cheilorhinoplasty is performed. A bifurcated section is collected at the bottom of

the nasal vestibule from the prolabial tissues collected in the "bank." Then the incisions are continued along the membrane wall behind the medial legs of the wing cartilages, transitioning to the intercartilaginous layers. The medial lateral legs of the greater alar cartilages are wider than the skin of the wings and the tip of the nose, and partially mobile from the covering. The intercartilaginous fat cell is cut, the flagella of the wing cartilages are attached to each other, the triangular cartilages, and the cartilaginous wall of the nose. The leaves of the two separated skin cuts are sutured together, forming a columella, which is sutured by a membranous wall. At the base of the nose, excesses of the covering are cut, and the turns of the mobile wings of the nose are sutured to the anterior subnasal area, forming a symmetrical base of the nose.

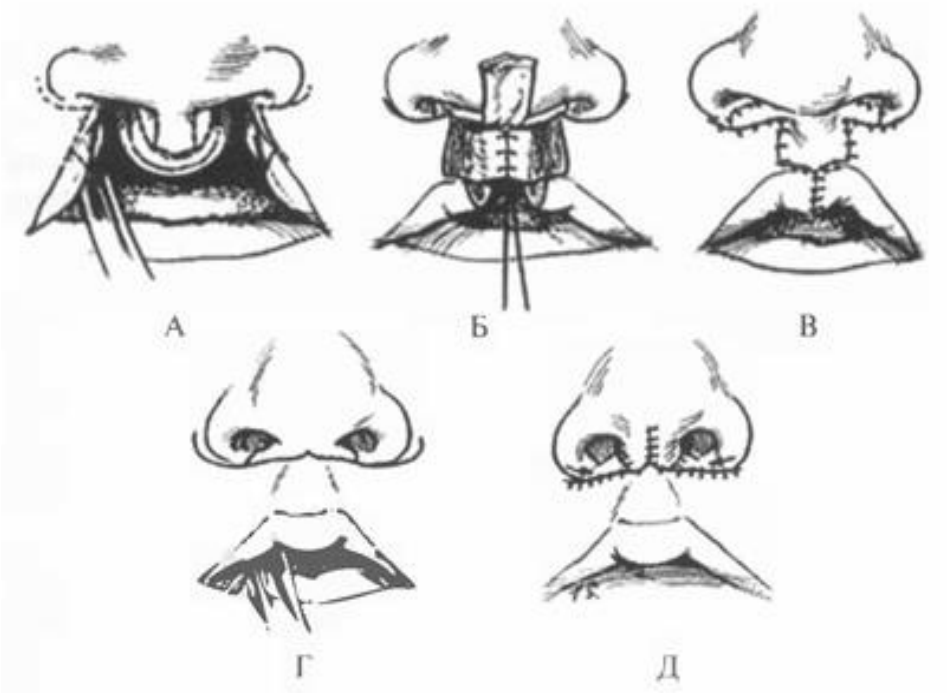
Primary bilateral cheilorhinoplasty in the small proliabium (Millard D. R., Latham R. A.). After orthopedic closure of the alveolar processes with the pre-maxillary, periosteoplasty is performed between them according to the method described above. Simultaneously, bilateral cheiloplasty is performed using rectangular cutaneous-mucous sections taken from the lower third of the lateral parts of the cleft and sutured to the open edges of the hypoplastic prolabium. According to D. R. Millard, R. A. Latham, after such cheylorhinoplasty, the small proliabium grows rapidly and in the next 1-2 years stretches 2 times its initial size. In the second stage, final cheilorhinoplasty is performed. A cut of the skin, divided into two parts, containing scars on both sides of the prolabium, is taken. The incisions are made along the membrane wall, transitioning from both sides to the intercartilaginous layer. The webs and lateral legs of wing cartilages are extensively mobile from the skin, tip of the nose, and wing, as described above. The grooves of the wing cartilages are sutured together by the cartilaginous wall and triangular (upper lateral) cartilages. The leaves of the bifurcated skin section are sutured together to form a columella.

Then, with hooks, the set of nostrils is raised, and the skin part of the reconstructed wall is sutured to the nasal membrane wall. The base of the mobile wings of the nose is sutured to the anterior subnasal region, forming a

symmetrically located floor of the nasal vestibule. Along the midline, the excess of the red border is cut, and the lateral parts of the lip are sutured layer by layer with prolabium, restoring the cupidone bulb and the middle protrusion of the red border.

According to data from D. R. Millard and R. A. Latham, over the past 6 years, surgical treatment of patients with unilateral and bilateral defects using the above-mentioned methods has been performed in more than one hundred patients. In the postoperative period, all patients were under orthodontic observation. In most patients, the correct contraction of the alveolar processes and the correct eruption of teeth were noted.

Diagram 10. Operation according to the D. R. Millard method



Method of two-stage cheiloplasty according to D. R. Millard.

To reconstruct the central part of the lip, D. R. Millard (1977, 1990) left the middle part of the prolabium (the middle part of the cleft lip) and, having formed a "tissue bank" in the vestibule of the nasal cavity, attached sections taken from its lateral parts to the base of the nasal wings. As a result, these tissues were used to lengthen the columella. Treatment of congenital bilateral cleft lip. Scheme of columella elongation with primary cheiloplasty and the second stage according to D. R. Millard: A - line of cuts; B - suturing of the orbicularis oris muscle; B - removal of incisions and suturing of the skin; G, D - elongation of the columella

with the second stage. In the first stage, P. Randall (1973) and H. McComb (1975) proposed extending the skin of the nasal wall with "separated" incisions from prolabial tissues, completing lip restoration after a few months. K. Kobus (1987) performed cheiloplasty first on one side, then several months later - on the other, simultaneously extending the columella with a "separated" section.

5.2. SURGICAL TREATMENT OF CONGENITAL PALATE LACK.

Currently, most surgeons prefer early uranoplasty (1-3 years). Late operations (12-13 years old) are not justified and do not lead to complete speech recovery. Many specialists confirm that treatment should be completed before the child goes to school. Based on the solution of the question of the timing of the operation, the most important is the significance of the operation in speech formation and the creation of conditions for reducing or preventing deformities in the upper jaw due to postoperative scars. Analysis of complex processes in the formation of conditions determining the growth and development of the upper jaw, the restoration of bite and speech is the main factor in early surgical treatment.

The basis of uranoplasty should be the planning of its methods and stages. This is necessary for the preoperative orthodontic treatment and the possibility of its gradual, age-appropriate subsequent continuation. When deciding on the timing of operations on the palate, it is necessary to follow the following tactics:

- With the correct ratio of free ends of the alveolar processes, uranostaphyloplasty is primary, which is performed from 1 to 3 years of age, with complete closure of the defect in unilateral clefts, and with bilateral defect - intentionally leaving 2/3 of the soft and hard palate, and in the anterior part of the palate - a defect that ensures the development of the frontal part of the maxilla.
- In unilateral and bilateral clefts with an incorrect ratio of parts (the position of the incisive bone, the width of the defect, and the condition of tissues in the lateral parts play a decisive role), veloplasty with retrotransposition of

the palate is performed.

The principle of cycloplasty is the restoration of the anatomical shape of the soft palate and its function - sufficient fusion of the palatopharynx, which is achieved with effective retrotransposition. In addition, cycloplasty, performed during orthodontic correction of the location of the parts, leads to narrowing of the defect in the middle part of the hard palate.

One of the main reasons for early surgery of children with cleft palate is the annual increase in concomitant diseases in a child with such a defect (i.e., complications of the somatic state), which delays their medical rehabilitation.

The conducted immunological, anthropometric, and biochemical studies: the somatic status of the child, as well as local conditions for uranostyleoplasty, indicate that the most optimal age is 1-3 years, which corresponds to the time of formation of the main speech mechanisms.

Palatine plasty - uranoplasty.

It is necessary to surgically eliminate the main anatomical disorders present in cleft palate:

1) closure of the cleft palate along its entire length;

2) extension of the soft palate;

3) narrowing of the middle part of the pharynx.

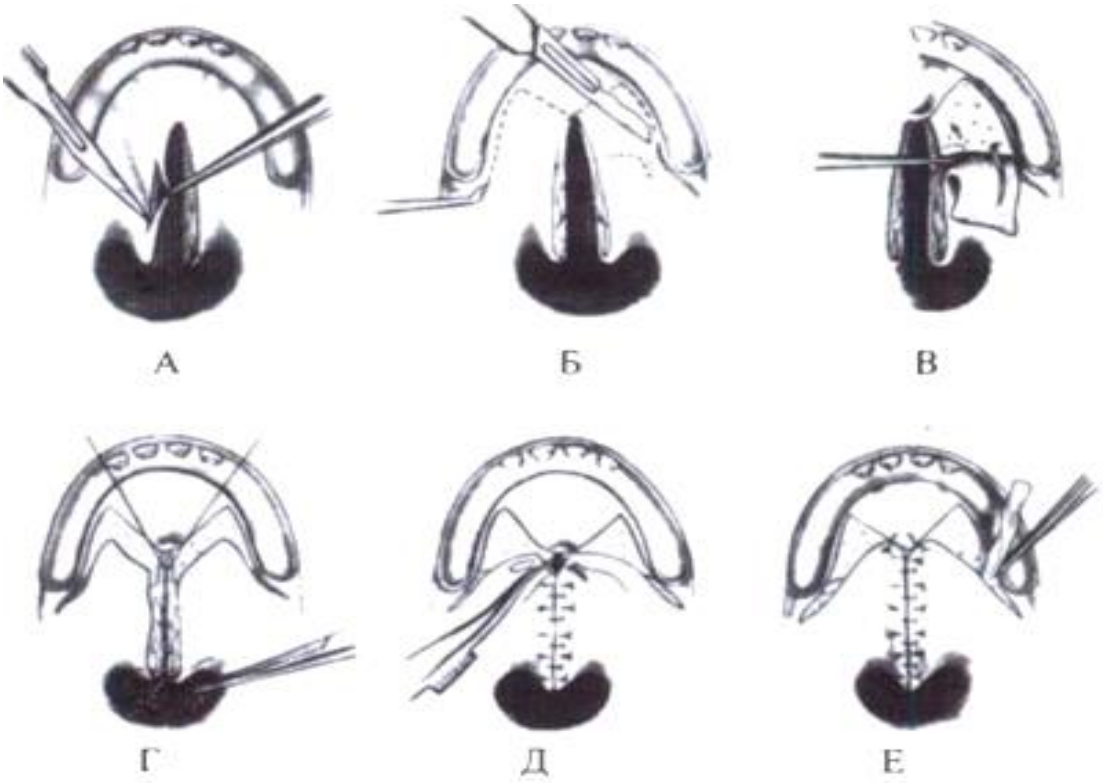
Palatine plasty is performed using local tissues using mucosal-periosteal sections transferred from the palatine plates and soft palate tissues. A. A. Limberg (1926) developed an operation that allowed for the simultaneous solution of all three tasks.

Radical palate plasty, according to A. A. Limberg, consists of 5 stages.

1. The edges of the cleft are opened, and periosteal sections are collected and separated within the hard palate. The incisions are made along the entire alveolar process at a distance of 2-3 mm from the gingival margin on both sides of the cleft. In the anterior part of the palate, both incisions are joined by an angular incision

bordering the intersecting groove. This allows for complete closure of the cleft of the hard and soft palate along its entire length during tissue retrotransposition.

Diagram 11. Radical plasticity of the palate according to A. A. Limberg



2. The opening of the neurovascular bundles emerging from the greater openings is carried out by resection of the posterior inner edges of the greater openings. The nasal mucosa is separated from the posterior edge of the hard palate, and the tissues are retracted to lengthen the soft palate (retrotransposition).

3. Interplate (interlaminar) osteotomy. The area of the internal pterygoid plate and the soft palatine muscles attached to it are separated from the pterygoid process of the basilar bone by a chisel and moved to the midline. This allows, without cutting the soft palate muscle, to reduce its transverse tension and suture the cleft in the soft palate area.

4. Narrowing of the middle part of the pharynx - mesopharyngoconstriction. Only the mucous membrane is cut, and the incisions are continued along both pterygomandibular layers. Then, using a blunt tool, the muscles of the lateral parts of the pharynx are separated and moved to the midline. Ulcers near the pharynx are

treated with iodoform tampons.

5. Before suturing - spreading the exposed edges of the (staphylorrhaphy) cleft along the soft palate. The soft palate is sutured in three layers: 1 - nasal mucosa; 2 - muscles, 3 - oral mucosa of the soft palate. The mucosal-periosteal sections separated on the hard palate are brought together and sutured.

The purpose of using conservative options for uranyplasty is to prevent the formation of multiple scars on the upper jaw, which can lead to the development of secondary deformities. Intraoperative trauma to the palatine bone tissues delays the further development of the jaw bones and exacerbates secondary deformities in the jaws, dentition, and the entire middle part of the face. Ulcers in the anterior pharyngeal area are tamponated with iodoform grooves. Spreading of the exposed edges of the cleft along the soft palate before suturing. The sutures are placed on the soft palate in three layers: the first on the nasal mucosa, the second on the muscles, and the third on the oral mucosa of the soft palate. The mucosal-periosteal sections separated on the hard palate are brought together and sutured. Radical plastic surgery of the palate is a traumatic, technically complex operation.

In conservative variants of plasty, opening and retraction of vascular-nervous bundles from the pterygopalatine canal is performed. The bones in the palate do not open. Narrowing of the middle part of the pharynx is accompanied by suturing the mucous membrane along the pterygomandibular layers. Conservative methods of palate plasty were proposed by L. E. Frolova, E. U. Makhkamov, A. A. Mamedov. In young children (2-3 years old), the best anatomical and functional results were obtained by bone-repellent conservative surgical methods.

Palatine plasty according to L. E. Frolova. In 1977, L. E. Frolova proposed a method of preserving soft palate cleft plasty with narrowing of the palatopharyngeal ring. The incisions are made along the inner surface of the soft palate, i.e., in the nasopharynx and then on the lateral surface of the pharynx. From the apex of the cleft to the limit of maximum narrowing of the pharyngeal ring, a duplication is created from the muscles of the mucous membrane and the oropharyngeal area. Simultaneously, plasty of the uvula is performed.

Diagram 12. Conservative palate plasty (according to L. E. Frolova et al.) [according to A. A. Mamedov, 1998].

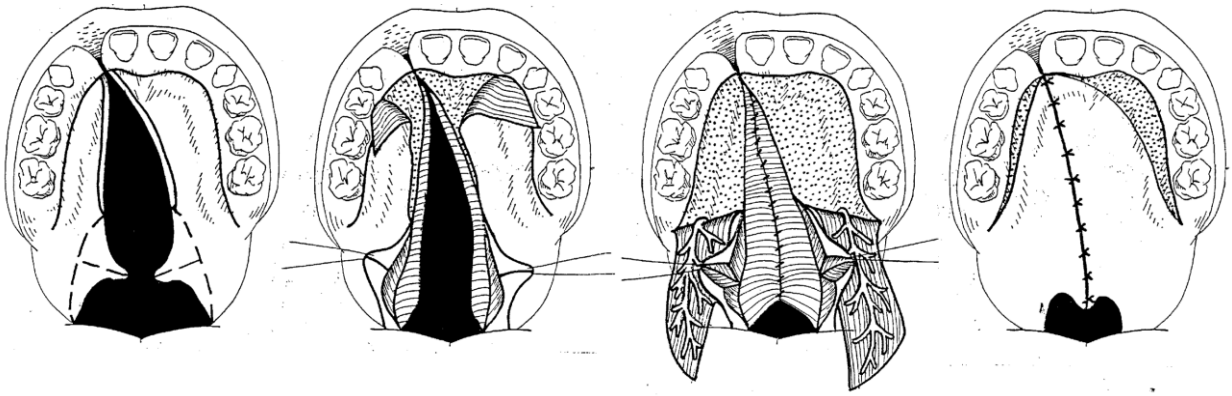
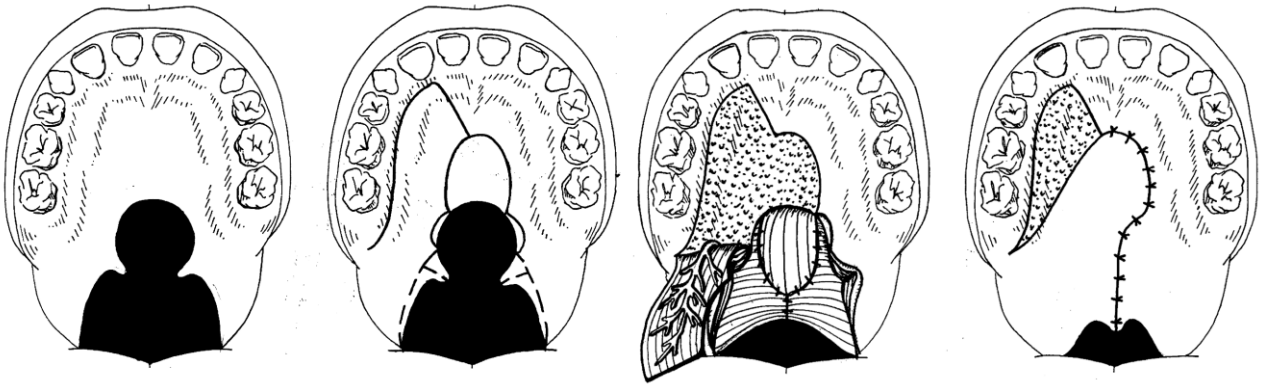


Diagram 13. Preservative palate plasty (according to L. E. Frolova - E. U. Makhkamov) [according to A. A. Mamedov, 1998].



Frolova-Makhkamov method. In 1981, E. U. Makhkamov proposed a one-stage closure of the hard palate defect in 2-year-old children. The cleft is closed by removing or inverting the mucous-osteal surfaces of the hard palate. This method is often used for unilateral clefts of the palate. The peculiarity is that the incision is taken in the form of an existing defect and only on a large part of the palate. Plastics of the soft palate can be performed according to L. E. Frolova.

Complications after palate plasty. The most common postoperative complication is the opening of the edges at the border of the hard and soft palate. This is the result of technical errors during the operation (poor removal of vascular bundles, incorrect, roughly performed interlaminar osteotomy). In rare cases, peripheral or partial necrosis of the mucosal-periosteal sections is observed due to extensive tissue damage or their strong post-operative compression with a ligament. For clear pronunciation of speech sounds, the soft palate should be fixed and long, and in speech - ensure complete closure of the palatopharyngeal gate. Considering the width and duration of the cleft palate, a properly planned operation reduces the percentage of postoperative complications.

Postoperative wound care.

In the first 3-4 days after the operation, the patient was prescribed a strict bed rest. The patient may experience vomiting after surgery, about which it is necessary to warn the person caring for them. Mucous-blood fluid may be

discharged from the mouth within a few hours and even the first 24 hours after surgery, which should be constantly aspirated.

On the day of the operation, in the evening, if the patient wishes, they can be given a small amount of liquid food: kissel, liquid wheat groats, sweet tea with lemon, various fruit and vegetable juices (up to 0.5 glasses in total). On the first day after surgery, a patient in a state of inhibition under the influence of narcotic drugs is usually in a state of liquid food intake, but on the next day, they usually refuse to drink or eat due to sharp pain during swallowing (due to swelling of the pharynx and palate). For the first 3-4 days, it is advisable to feed the patient through a thin tube. Nutrient mixtures should be liquid, calorie-rich, and rich in vitamins (kissels, cereals, soups, juices). If bleeding occurs under the plate after surgery, it should be tamponed. The first bandage is applied on the day after the operation, checking the correct application of the iodoform tampon on the hard palate and palate incisions to ensure the firmness of the protective palatine plate. In the postoperative period, physiotherapeutic procedures are carried out.

CHAPTER 6. PROGRAM FOR COMPREHENSIVE TREATMENT OF CHILDREN WITH CONGENITAL DEFINITY OF THE UPPER LIPS AND PALATE IN THE CONDITIONS OF A SPECIALIZED CENTER.

Implementation of a comprehensive treatment program for children with a specific cleft lip. On the first day after birth, the birth of a child with a congenital defect of the upper lip is reported to the "Republican Scientific and Practical Center for Rehabilitation of Children with Congenital and Acquired Pathology of the Maxillofacial Region" by the obstetric institution, registration in the database of the Center, and informational and psychological interviews with the child's parents.

For each child, in the maternity hospital or after discharge, a medical card (outpatient card of the center) is opened, which contains basic information about the child and parents, the course of pregnancy, the child's development, past illnesses, prescribed treatment measures, and specialist consultations. When visiting the specialized center, parents have the opportunity to see other children at different stages of treatment. Conducting explanatory work with parents helps overcome psychological trauma, gives hope for successful treatment, and ensures timely implementation of treatment measures. In the first 3 days or from 4-6 months, the issue of performing primary cheiloplasty is decided, taking into account the somatic state of the child. In the presence of concomitant pathology (intrauterine hypoxia, infectious diseases, childbirth with combined developmental defects, condition below 8 points according to the Apgar scale) - rehabilitation measures are developed with cheiloplasty in later stages.

Teaching mother to breastfeed. Prevention and treatment of somatic diseases are carried out by a neonatologist, and then by a pediatrician of the center. If necessary, consultations with related specialists (neurologist, cardiologist, surgeon, traumatologist) are conducted. Formalization of documents for disability benefits.

Performing primary cheiloplasty at 4-6 months. To prevent deformation of the nasal wing on the operated side in the near and long term after surgery for complete, sometimes incomplete clefts of the upper lip with deformity of the

cutaneous-cartilaginous part of the nose, an individual plastic nasal tube is prepared. For its preparation, a nasal insert is prepared 7-8 days after the operation. The patient regularly uses the insert for 5-6 months after surgery. As a result, the nasal wing is formed in the insert, the correct shape of the nasal wing created during cheiloplasty is preserved, which improves the aesthetic results of the operation.

One month after cheiloplasty, a course of physiotherapeutic measures is carried out in the scar area - massage, electrophoresis, UHF therapy.

Orthodontic observation is especially necessary in cases where early primary cheiloplasty is delayed by the first day after birth due to comorbidities, with a separate congenital cleft of the upper lip of degree 3b (L. E. Frolova). In children with a separate cleft of the upper lip, there is a possibility of protrusion of the frontal milk and permanent teeth from the palate due to the flattening of the upper lip after cheiloplasty and the pressure of the scar remaining after a rough operation on the teeth. The short stapes of the upper lip and diastema are common. These pathological changes usually require orthodontic, and in some cases, complex (surgical and orthodontic) treatment. However, orthodontic treatment of these children is often carried out only after replacing temporary teeth with permanent ones. Orthodontic treatment for milk occlusion is carried out only if the anomalies caused by the teeth lead to the formation of a pathological occlusion.

Orthodontic treatment of these children is carried out with both removable (plates with springs and screws for removing individual teeth) and non-removable (Engel's arch, bracket systems) apparatuses. Non-removable devices are used only in permanent bites. In some cases (adentia, microdentia, etc.), dental prosthetics are indicated. If anomalies in the position of the anterior teeth of the maxilla were caused by unsatisfactory results of cheiloplasty, then before orthodontic treatment, correction of the upper lip, plasty of the vestibule of the oral cavity, plasty of the upper lip with a short staple, and other operations are indicated. Osteoplasty of the alveolar process and rhinoseptoplasty in primary school age provide for the completion of basic rehabilitation measures.

Program for complex treatment of children with special cleft palate. On the first day after birth, the birth of a child with a congenital defect of the upper lip is reported by the maternity hospital to the Republican Scientific and Practical Center for the Rehabilitation of Children with Congenital and Acquired Pathology of the Maxillofacial Region, registration is carried out in the center's database, and informational and psychological conversations are held with the child's parents.

For each child, in the maternity hospital or after discharge, a medical card (outpatient card of the center) is opened, which contains basic information about the child and parents, the course of pregnancy, the child's development, past illnesses, prescribed treatment measures, and specialist consultations. When visiting the specialized center, parents have the opportunity to see other children at different stages of treatment. Conducting explanatory work with parents helps overcome psychological trauma, gives hope for successful treatment, and ensures timely implementation of treatment measures.

Surgical interventions for congenital cleft palate at different age periods have their advantages and disadvantages. Thus, early surgery (up to 3 years of age) undoubtedly leads to the rapid restoration of disrupted functions and prevents secondary inflammatory diseases of ENT organs and others (V. Veau, 1931; F.Burian, 1954; Schweckendisk, 1955; H.-J. Neumann, 1990; Delaire, 1995; Badalyan Kh.A., 1984; E.N. Samar, 1987 and others). At the same time, surgery on the palate at these intervals can lead to congenital delay in maxillary growth due to postoperative scars on the palate and intraoperative disruption of the maxillary growth zones. These conditions are a significant disadvantage of early and ultra-early palate plasty, since the earlier the palate surgery was performed, the higher the probability of incomplete development of the maxilla in the postoperative period.

In addition, early operations on the palate should be performed only in those cases when it is possible to systematically monitor the patient before and after the operation and timely orthodontic treatment. In the absence of such conditions, surgical operations on the palate should be postponed.

In the late stages, plastic surgery on the palate (over 6-8 years old) is not performed if there are medical contraindications to the operation, as well as if early orthodontic treatment of children after surgery is not precisely carried out due to socio-economic conditions. A major disadvantage of late operations for congenital cleft palate is the late restoration of impaired functions and the development of secondary inflammatory diseases in the ENT organs. All this creates social problems, as it hinders the child's adaptation to the children's collective, to school.

To avoid these significant shortcomings, many surgeons suggest using oral and nasal cavity isolators, floating and other obturators in the preoperative period. This allows, to a certain extent, to compensate for the impaired functions caused by the disease.

Surgery for congenital cleft palate at the age of 3-6 (preschool) The most intensive growth of the upper jaw occurs in the first 5 years of life and by this age reaches 5/6 of its width. The leading aspect that works in favor of this period is the need for the child to go to school. Many functions of school, especially the normalization of speech function, allow a child to join the school community without psychological conflicts, not feel disabled, and engage well. In addition, there is a possibility of applying a protective plate after surgery on a formed milk bite.

Currently, all maxillofacial surgeons and dentists believe that a child's age is not the only criterion for palate plasty. First of all, it is necessary to take into account the severity of the congenital malformation, the general physical and mental development of the child, the presence of comorbidities, social and living conditions, the possibility of orthodontic treatment, etc. Thus, early surgical intervention is recommended only for individual clefts of the soft palate, and for clefts of the hard palate and alveolar process - later, but definitely in preschool age (V. V. Roginsky, 1987; Yu, I. Bernadsky, 1999 and others). Thus, in the surgical treatment of cleft palate, along with the normalization of functions based on age determination, it is necessary to take into account the possibility of secondary deformation of the maxilla after surgery and methods for its prevention.

The basis of our work is the accumulated experience of performing plastic surgery for congenital cleft palate, proposed by L. E. Frolova and E. U. Makhkamov, depending on the severity of the pathology, from 2-3 to 6 years of age. At 2-3 years of age, children with isolated clefts of the soft palate, and from 4 to 6 years of age - with clefts of the soft and hard palate, can be operated on. At the same time, early palate plasty should be performed on children, if possible, using conservative methods (without interference with bone tissue) and only when it is possible to carry out postoperative orthodontic treatment, since the earlier the palate surgery is performed, the higher the probability of secondary deformation of the maxilla. Nevertheless, all children with cleft palate (in the absence of medical indications) should undergo surgery at preschool age.

Indications for corrective or repeated operations on the palate are unsatisfactory long-term treatment results: defects in the posterior parts of the palate and at the border of the hard and soft palate due to the opening of sutures; a gap in the anterior part of the hard palate that allows air and food to pass into the nasal cavity; significant shortening of the soft palate, etc. Small cleft defects in the anterior part of the hard palate, preventing food and air from entering the nasal cavity, do not require surgical treatment.

Orthodontic treatment of individual clefts of the soft and hard palate. Orthodontic treatment of children with isolated cleft palate is carried out according to individual indications in the preoperative and postoperative periods in the presence of growth retardation or the appearance of symptoms in the maxilla.

As partially mentioned, the use of floating palatal obturators in infants with congenital cleft palate during the neonatal and breastfeeding periods facilitates breastfeeding. Their use contributes to the subsequent formation of correct speech and prevents the development of chronic inflammatory processes in the upper respiratory tract, nasopharynx, and middle ear. However, we recommend the use of floating obturators in children with congenital cleft palate only in exceptional cases - with pronounced impairment of swallowing function and a risk of aspiration pneumonia, as well as with the appearance of symptoms of acute or chronic otitis

media. This is due to the fact that their use leads to chronic inflammation of the mucous membrane of the palate (especially along the edges of the cleft), which complicates surgical intervention. In addition, the obturator inhibits the growth and development of the palatine plates in the maxilla.

Thus, the floating obturator reliably separates the nasal cavity and oral cavity and prevents food from entering the nasal cavity during feeding, and also improves sucking and swallowing function. It should be noted that recently, due to a global trend, floating obturators are becoming increasingly rarely used for early surgical interventions on the palate, which eliminates the need for their use.

After eruption of temporary teeth and with signs of underdevelopment of the maxilla, children with individual clefts of the palate are indicated orthodontic treatment aimed at correcting the bite before surgery on the palate. For this purpose, removable plates with screws, springs, occlusions, and other coatings are often used. In many cases, it is advisable to manufacture these orthodontic apparatuses with an obturator part, which allows them to be used as a plate palate obturator. Since false progeny is more common in these children, along with the oral apparatus, it is possible to use an individual loop for the chin and a head cap with a rubber band between them. It should be considered a rule that a child born with a congenital cleft palate should lie on the operating table with a neutral bite. This significantly facilitates orthodontic treatment in the postoperative period.

One of the most important orthodontic measures in the treatment of children with congenital cleft palate is the preparation of protective plates that protect postoperative sutures on the palate from food remnants, hold the sutures on the palate and postoperative tampons in the correct position, and keep the wound at rest. Protective plates are prepared 7-10 days before surgery. Traces from the upper jaw are obtained with the desired trace mass. They should have all the teeth of the upper jaw, clear traces of the transitional layer, edges of the palatine fossa up to the posterior pharyngeal wall. Then the boundaries of the protective plate are determined on the gypsum model. In the model, a plaster cast is placed between the palate defect, palate plate, and dome, leaving space for gauze iodoform

tampons after surgery. The posterior border of the protective plate is usually defined in the middle of the soft palate. All subsequent stages of manufacturing the protective plate do not differ from the manufacture of removable prostheses. After preparation, the plate is kept for several days, and the child is "weared" to get used to it and eliminate all its shortcomings. The protective plate is attached to the maxillary teeth after the completion of the palate grafting operation.

Usually, 12-14 days after the operation, after sutures are removed and iodoform tampons are removed, the protective plate is used to form the palatal dome. For this, a thermoplastic mass (after 1-2 days) is applied to the plate, especially in the area of the soft palate, several times (3-4) to stretch and smooth the scars remaining after the operation, and to form the palatal arch. The child uses such a forming plate continuously (removing it during feeding) for 3 months and then at night for 1-2 months. In parallel, other measures aimed at forming soft palate mobility are carried out (massage, myogymnastics, etc.).

All children with special cleft palate should be under mandatory orthodontist observation (2 times a year) after surgery until the completion of facial skeletal bone growth. This is due to the presence of dense scars on the palate after surgery, as well as the fact that disruption of the growing areas of the maxilla during surgery (separation of mucosal-periosteal sections, etc.) can lead to delays in maxillary growth, often to its narrowing.

In the presence of occlusion anomalies in the postoperative period, all known apparatuses of mechanical and functional-oriented action are used for orthodontic treatment of these children. In milk and interchangeable bite - these are plates, often with screws, arcs, and other attachments. In permanent occlusion, Engle's arches, bracket systems, etc. are often used. It should be noted that orthodontic treatment aimed at stimulating the growth of the upper jaw in children of this group is a long-term, complex, and difficult process, since the dilated upper jaw is unstable, requiring long-term retention to prevent recurrence of the disease. Massage and other measures aimed at ensuring good excitability of the soft palate are carried out at least 6 months after the operation.

The complex treatment program is based on the stages of surgical and orthodontic treatment. The first stage is cheiloplasty at 6-8 months of age. Orthodontic treatment in the preoperative period. Many orthodontic treatment methods are known for the displacement of the intermaxillary bone within the framework of the superior alveolar arch and the suppression of nasal growth in the sagittal and vertical directions. The use of the McNeil apparatus requires the application of a pressure-conducting ligament in the anteriorly protruding intermaxillary bone. The dressing should be applied throughout the entire period before cheiloplasty. If necessary, a pressure bandage on the intermandibular bone with a rubber strap attached to the head cap can be used after cheiloplasty, 3-4 weeks after the operation. In the absence of congenital narrowing of the upper jaw in a child with a bilateral transitional cleft, oral removal of the intermandibular bone and placement in the alveolar arch can be performed without a McNeil apparatus, only by applying a dressing to the middle part of the upper lip, which significantly facilitates the treatment process.

Currently, devices have been proposed that allow for the avoidance of applying a pressure bandage to the intermandibular bone for the early orthodontic treatment of children with bilateral transitional cleft. Such apparatuses additionally have a cap connected to the cutting bone by an elongated spring, rubber rod or screw, etc., with the base of the apparatus. The activation of these elements allows for the retrusion of the intermaxillary bone.

Constant monitoring by the center's pediatrician, breastfeeding training, monitoring and correction of the somatic state. Examination, if necessary, by related specialists (neurologist, cardiologist, surgeon, traumatologist).

In children with unilateral transitional cleft lip and palate, a large part of the alveolar process is straightened in the anterior part and deformed due to a small, lateral shift of the midline and backward. The task of early orthodontic treatment (before cheiloplasty) in children with this pathology is also to normalize the shape of the alveolar process in the maxilla by reducing the width of the alveolar process cleft and thereby the width of the upper lip cleft, which positively affects the

course and outcome of cheiloplasty.

In children with unilateral cleft lip and palate, in cases where the deformation of the maxillary arch is not pronounced, a simple isolating plate (oral cavity and nasal cavity) with an obturator part covering the alveolar processes and hard palate can be used to close the edges of the cleft. The plate does not contain active elements. The adduction of the alveolar portions occurs as a result of maxillary growth. Such a device should be replaced every 3-4 weeks. Such a plate can also be used to achieve optimal conditions for natural or artificial feeding of the child with individual clefts of the palate. These orthodontic appliances can be manufactured from the first week or even days of a child's life.

In case of unsatisfactory fastening or poor placement of orthodontic appliances, their reinstallation with self-hardening plastic is carried out according to the generally accepted methodology. For the early orthodontic treatment of children with congenital cleft lip and palate, it is advisable to create an obturator that closes the soft palate defect. This allows for better breastfeeding.

Additionally, it can be noted that swimming obturators can be made in early childhood for some children with transitional clefts of the lips and palate. However, their use does not allow the use of obturating orthodontic devices.

Thus, early orthodontic treatment of children with transitional clefts of the lips and palate (before cheiloplasty) allows creating the best conditions for breastfeeding, creates preconditions for improving the results of cheiloplasty, and prevents the development of chronic inflammatory processes of the ENT organs.

Orthodontic treatment of children with transitional cleftness after cheiloplasty is continued, since it is necessary to consolidate or improve the results of preoperative treatment. During the period of milk occlusion, these children usually need to normalize the shape of the maxillary arch, expand the upper dental arch on one or both sides, delay the growth of the lower jaw, normalize the position of individual teeth, etc. All these orthodontic procedures must be completed before the time of the operation on the palate, so that, if possible, plastic surgery of the soft and especially hard palate is performed in children with normalized (neutral)

occlusion. Before the operation on the palate, a protective plate is prepared for all children, which is also used in the postoperative period.

After cheiloplasty, the second stage of surgical treatment is proposed - cycloplasty from 10-12 months to 1.5 years of age. After cycling: a course of physiotherapy, soft palate massage, and sessions with a speech therapist. Examination by an otorhinolaryngologist. From the age of 3, plasty of the anterior part of the hard palate completes the main stages of surgical treatment.

Then, orthodontic correction of the nose, upper lip, examination by a speech therapist, psychologist. It is known that surgery on the palate due to congenital cleftness delays the growth of the maxilla due to damage to the growth area of the maxilla and the formation of postoperative scars, leading to an increase in its congenital deformity. In addition, all children with transitional cleft lip and palate have anomalies in individual teeth located along the edges of the alveolar process cleft. All of the above requires constant observation by an orthodontist, as well as orthodontic treatment in children with transitional cleft lip and palate, even after palate surgery (uranoplasty or veloplasty).

For most children with transitional clefts of the upper lip and palate, orthodontic observation and orthodontic treatment should continue until the completion of facial skeletal growth (18-20 years for boys, 16-18 years for girls).

In bilateral clefts of the upper lip, cheiloplasty can be performed in both one and two stages with an interval of 2-2.5 months. Each of these options has its advantages and disadvantages. If the cheiloplasty operation is performed in 2 stages, then in the first stage the cleft of the upper lip is closed on the "heavier" side, and in the second stage, after 2-2.5 months, the cleft of the upper lip is closed on the side with less pronounced clinical signs, both vertically and horizontally.

Before referral to the hospital for surgical treatment, it is necessary to examine the child at the place of residence and prepare him for surgery in order to exclude contraindications to surgery. Evidence of the child's somatic health should be obtained using preoperative clinical, laboratory, and functional research methods. The operation is performed in the absence of acute diseases of the

respiratory system and other systems of the body and at least three months after previous inflammatory diseases and prophylactic vaccination.

Indications for corrective surgery in preschool children - unsatisfactory anatomical and functional results of cheiloplasty.

Operations to eliminate nasal deformity at an early age, according to aesthetic indications, are usually not strict. Therefore, according to most surgeons, nasal deformity should be corrected after the age of 12-14, and sometimes later (bone rhinoplasty), when the rapid growth of the bones of the facial skeleton is completed, and nasal deformity is fully detected. Early surgeries with incision and separation of the nasal cartilages can lead to damage to the growth area and subsequent delay in the growth of the base of the nasal cartilage. With the help of pre-existing bone grafting (during permanent occlusion), it is possible to eliminate the defect of the alveolar process in the maxilla, preferably using the patient's own bone.

Children with congenital clefts of the upper lip and palate usually have anomalies on the sides of the teeth, dentition, and bite. The severity of pathological changes in the child's dentoalveolar system is directly related to the type of defect. Thus, in individual clefts of the upper lip, anomalies are most often detected on the side of the cleft by incisors and spikes (microdentia, adentia, oral condition, etc.). In individual clefts of the hard and soft palate, when the integrity of the dental arch is not disturbed, in most cases, growth retardation or incomplete development of the maxilla is detected, and anomalies by individual teeth are not characteristic (pathognomonic). In transitional clefts of the upper lip and palate, when the integrity of the lip, alveolar process, hard and soft palate is disrupted, all possible anomalies are detected both on the sides of the teeth and dentition, as well as on the side of the bite (narrowing of the upper jaw, false progenia, crooked or intersecting bite, etc.).

1. Creation of conditions for optimal feeding of newborns and infants.

2. Normalization of the shape and size of the alveolar process and dental arch in the maxilla in the sagittal, transverse, and vertical planes both before and

after surgery on the upper lip and palate.

3. Elimination of congenital underdevelopment of the maxilla on the upper lip and palate both before and after surgery.

4. Preparation of orthodontic devices (devices) that provide optimal conditions for wound healing and tissue formation in the postoperative period.

5. Control of maxillary growth and ensuring the formation of an orthodontic bite during the growth of the maxilla and facial skeleton after cheilo- and uranoplasty.

6. Elimination of anomalies by individual teeth.

7. Prevention of the development of secondary deformities in the lower jaw and lower dental arch.

8. Dental prosthetics according to functional and aesthetic indications.

The role of speech therapy training in the comprehensive rehabilitation of children with congenital cleft lip and palate.

There are 2 classes of speech disorders - clinical-pedagogical and psychological-pedagogical. The first relies on medicine and is strictly dependent on the forms of the disease, including congenital cleft lip and palate. In this classification, clinical criteria are given a clarifying role, which cannot be a guide for teachers. These criteria are aimed not only at speech disorders, but also at explaining anatomical and physiological disorders and their causes. For the same reasons, different manifestations of speech disorders can arise.

Types of speech disorders according to clinical and pedagogical classification:

Dysphonia - the absence (aphonia) or impairment of phonation due to pathological changes in the vocal apparatus, voice disorders, and vocal disorders.

Bradylalia - a pathologically slowed tempo of speech (bradyphrasy) - prolonged, monotonous speech.

Tachylasia - pathologically accelerated tempo of speech (tachyphrasia).

Speech can be excited, intense, rapid, accompanied by agrammatisms

(**battarism, paraphrasis**). If accelerated speech is accompanied by unreasonable pauses, stutters, and stumbling, it is designated by the term "**polterne**." The consequence of a disruption of speech tempo is a violation of the fluency, rhythm, and intonational expressiveness of the speech process.

Stuttering is a **tempo-rhythmic disorder** of speech organization associated with the contractile state of muscles in the speech apparatus (logoneurosis), of central origin, has an organic or functional nature and arises during the development of the child's speech.

Dyslalia - a disorder of sound pronunciation with normal hearing and preserved innervation of the speech apparatus (talking with a stutter, defects in sound pronunciation, phonetic defects). It manifests itself when speech is formed with an incorrect sound (incorrect pronunciation of sounds, alternation of sounds or their mixing). The defect may be associated with unformed articulatory base or incorrect articulatory positions; anatomical defects (of organic origin) of the speech apparatus. Most often, the disorder occurs during speech development and in traumatic situations at any age.

Rhinolalia is a disorder of voice timbre and sound pronunciation associated with anatomical and functional defects of the speech apparatus. The voice has an expressive nasal tone, all sounds are pronounced incorrectly. The speech is unclear, monotonous. Rhinolalia or snorting are consequences of a congenital palate defect. In clefts of the palate, the respiratory and vocal sections of the peripheral speech apparatus do not have any anatomical disorders, and its upper part (articulation) has a gross structural disorder, the ability to separate the oral and nasal cavities is impaired.

The presence of a congenital cleft palate disrupts the entire complex of coordinated reflex movements involved in the basic mechanisms of resonant speech (breathing, voice production, and articulation):

1. With sufficiently good and complete breathing, the rhinolalic's exhalation during speech is short, with jerks, and differentiated oral and nasal breathing is not formed.

2. Voice tone, in addition to the nasal tone, is distinguished by poor modulation.

3. In the oral cavity, especially the upper position of the root of the tongue is characteristic, which is an adaptive position for closing the cleft palate. Such a position of the tongue limits the excitability of both the entire body and the end of the tongue, which is drawn to the middle of the oral cavity. Thus, the most mobile organ of articulation, participating in the formation of all speech sounds - the movement of the tongue - is sharply limited.

Due to the interconnectedness of the tongue and lip muscles, lip movement is also inhibited. The wider the cleft palate, the greater its negative impact on the formation of the child's vocal speech. Analysis of the pronunciation of the rhinotic revealed that the most affected sounds are fricative and whistling consonants, alternating with nasal exhalation, sometimes with groaning or wheezing, and retropharyngeal sounds, which are either absent or alternate with an explosive sound occurring at the edge of the small cleft tongue or on the wall of the pharynx with the raised root of the tongue. Vowel sounds are pronounced by a slightly resonant airflow through the nose, differing little from each other.

In severe cases, others do not understand the child with rhinola, and even the mother rarely understands him. The sounds pronounced in mild cases are close to normal in both articulation and intonation, but close to the nasal sound, since the airflow still partially exits through the nose. Probably, some authors (Prof. M. Zeyeman, M. Sovak - Czechoslovakia) believe that it is correct to call this speech disorder rhinophonia, not rhinolalia, which means the presence of only a nasal sound.

In the **complex rehabilitation of the PHC**, the speech therapist's service works in conjunction with other specialists: therapist, neurologist, physician of the therapeutic physical education room, massage therapist. The main forms of speech therapy work with children and adolescents are individual and group sessions held several times a week. Groups of 2-4 people are formed taking into account the age and individual characteristics of the children, the specialization of speech

disorders.

Tasks of speech therapy training:

• elimination of pronunciation defects;

• formation of skills and practical skills in using corrected (phonetically pure, lexically developed, grammatically correct) speech;

• development of expressive speech based on correctly pronounced sounds.

• Development of hearing, memory, and phonetic perception;

• development of skills and abilities to distinguish articulatory and acoustically similar sounds;

• Improving the skills of phonetic perception and sound analysis and synthesis in parallel with sound pronunciation correction;

• Systematic exercises for the development of attention, memory, thinking in the processed pronunciation of the material;

Parents receive their first consultation from a speech therapist when they register at the Center. Further advice is necessary when your child reaches 3.5-4 years of age. At this time, systematic correctional exercises begin. After the operation to close the palatal defect, consultations should be conducted at least once a year, preferably every 6 months.

It is important to eliminate all pronunciation defects in preschool age, before they become persistent, difficult-to-correct defects. In addition, it should be remembered that in preschool age, a child's speech develops very rapidly, the main thing is that it is flexible and amenable to correction.

The speech therapist begins speech correction at an early age (1-2 years) before the appearance of conscious speech, before the stabilization of pathological skills associated with cleft palate. The training consists of the selection of games and exercises that strengthen the respiratory system and teach children to take deep breaths.

In the period of speech development, from 4-5 years of age, the speech therapist directly engages with the child, teaching them conscious speech actions. Treatment consists of practicing exhalation in speech, physical development of the

speech organs, and the development of correct speech articulation. Systematic preoperative speech therapy allows achieving great success in patients with any defect without the use of obturators or any orthopedic devices. Such children should reinforce the acquired speech skills after surgery, which reduces the duration of training. Children with congenital cleft palate should undergo an examination by a psychoneurologist, who will eliminate the congenital defect in the central nervous system and monitor the child's level of mental development. Children with congenital cleft palate should undergo regular sanitation by a dentist and otolaryngologist. The general physical development of children is systematically monitored by a pediatrician, a dentist-geneticist.

The entire course of training with a speech therapist can be divided into two periods: preoperative and postoperative.

A complex complex of anatomical disorders in children with congenital cleft lip and palate leads to impaired speech function. In these patients, speech is quiet, unclear, lisping, sweet, speaking "sh," stuttering, because they have impaired sound pronunciation, incorrect breathing during speech, phonemic hearing ability, and others. Almost all sounds in rhinolalics are more or less defective. However, nasal sounds and vowels suffer the least. When pronouncing the sounds "s," "z," "f," "v," a large amount of air is expelled through the nose. Sometimes in these children, one sound is replaced by another. For example, "g" is pronounced instead of "d," "k" instead of "t," and so on.

All of the above allows us to consider speech therapy treatment as an absolutely necessary stage of complex treatment of children with congenital cleft lip and palate.

In the preoperative period, the speech therapist's tasks include correcting diaphragmatic breathing, practicing exhalation in speech, gymnastics of the speech organs, etc. In young children, learning should be based on games that arouse interest. The training itself should not be tiring. They can be conducted both individually and collectively.

Most specialists believe that speech correction in children with congenital

cleft lip and palate should begin from early childhood (1-2 years) and no later than 2-2.5 years (until the appearance of conscious speech), since pathological skills in children at this age are less stable than in older children, which means that they are easier to correct or re-train. In addition, in early childhood (before palate surgery), speech therapy exercises strengthen the muscles of the pharynx and soft palate, which ensures the best results after surgery. On the contrary, with age, due to the absence of normal functional load, atrophy occurs in the muscles of the soft palate and upper pharyngeal sphincter, which subsequently negatively affects the normalization of speech function. Speech therapy training should begin with a general examination by a speech therapist, orthodontist, pediatrician, and otolaryngologist to assess the child's overall development and identify anomalies in the dentofacial system and diseases of the ENT organs. Sanitation of the ENT organs is indicated before the start of training.

Individual sounds are often corrected (articulated) by individual exercises, starting from the age of conscious speech formation (from 4 years old). Experience shows that in many children with congenital cleft lip and palate, it is possible to achieve clear speech before surgery and significantly reduce the glottis (rhinolalia). In addition, the skills acquired at the preoperative stage are preserved and actively used after surgery, which facilitates and significantly reduces post-operative speech therapy training.

It is known that the coordination of the movements of the tongue, lips, and larynx is of great importance for the correct formation of speech. Children with congenital cleft lip and palate develop incorrect articulation, i.e., coordination of these movements, and incorrect speech (phonemic). Treatment of children with this pathology begins, first of all, with the elimination of palatophonia, i.e., nasal discharge. Palatophonia is eliminated with the help of breathing exercises. The treatment of this defect is very complex and requires a lot of effort from the speech therapist and the child. The main task here is to create conditions for the passage of sound airflow through the mouth, with the exception of the sounds "m" and "n." In addition, it is necessary to develop in the child the ability to distinguish between a

non-mankable sound and a mankable sound.

The first lessons are designed for the gymnastics of the speech organs: facial muscles, lips, tongue, soft palate, and pharynx, as well as for the organization of diaphragmatic breathing (inflating the cheeks, blowing out soap bubbles, all movements with the tongue, loud pronunciation of the "a" sound, etc.). This is achieved by exercising in front of the mirror 5-6 times a day. After mastering gymnastic exercises, sound correction for the speech organs begins.

In the postoperative period, 2-3 weeks after the operation on the palate, it is necessary to continue training with a speech therapist. This stage begins with soft palate massage and myogymnastics, individual sounds are corrected and reinforced, phonemic hearing is restored, and correct speech skills are reinforced. Assessing the results of surgical treatment of children with congenital cleft lip and palate, as well as the prospects of speech therapist training, it should be noted that a good anatomical shape of the palate and especially the length of the soft palate is an integral condition for normalizing speech function. The degree of soft palate elongation is crucial for the formation of the palatopharyngeal valve (the posterior edge of the soft palate connects to the posterior pharyngeal wall) and for preventing nasal exhalation during the pronunciation of speech sounds.

All the speech therapist's work is carried out in front of the mirror, which allows faster development of correct articulation (the position of the speech organs when pronouncing a sound). To achieve this goal, in addition to vision, a child uses an auditory analyzer to correctly hear their own speech and the speech of others. Lablar, til va jag’ning to’g’ri holatini ko’pincha shpatel yordamida yoki barmoqlar bilan o’rnatishadi. Oxir-oqibat to’g’ri talaffuzning shartli refleksi tobora mustahkamlanib boradi.

The correct position of the lips, tongue, and jaw is often fixed with a spatula or with fingers. Eventually, the conditional reflex of correct pronunciation gradually strengthens.

Children learn the pronunciation of vowels easily after explaining the position of the lips and tongue. Correcting consonants is more complex, especially

"r," "l," "z." The sounds "s" and "z" are often impaired due to anomalies of the dentofacial system (dental sounds), "p," "b," "m" - labial sounds.

After teaching individual sounds, children learn individual words and even sentences. Usually, they start with sounds that are easy to learn, which arouses interest in learning. Subsequently, the patient begins to be taught expressive reading. Speech therapist training should be completed after the child develops automatic pronunciation in ordinary spoken language. Parents and relatives of the child should carry out a lot of work on the training of a speech therapist and the consolidation of acquired speech skills both at home and during individual sessions with the speech therapist.

The duration of the training course varies and depends on the child's age, mental abilities and general development, as well as the severity of the congenital defect and the quality of the performed operations. Nevertheless, along with the quality of surgical intervention, the decisiveness of the speech therapist, parents, and the child is the main condition for success. It should be noted that the first results of work on the normalization of speech function can be determined in systematic sessions with a speech therapist 3-6 months after surgery. It should be emphasized that speech therapy training in children with congenital cleft lip and palate should be an integral part of the complex treatment of these children and should be carried out before and after surgery.

Children with congenital clefts of the upper lip and palate in most cases can and should attend regular kindergarten (speech or speech therapy group) and general school, which has a positive effect on their general and mental development. In these cases, active assistants to speech therapists should be school teachers and kindergarten teachers. In some cases, when a child is delayed in mental development, it is indicated that they should be treated by a psychoneurologist or psychotherapist. This can prevent severe mental disorders arising from dissatisfaction due to one's own shortcomings.

Thus, the results of palate plastic surgery are assessed not only by the quality of wound healing after surgery on the palate, but also by the degree of restoration

of impaired functions, primarily speech functions, as a result of the disease.

If necessary, the speech therapist directs for consultation with various specialists of the clinic: a neurologist, psychiatrist, otolaryngologist, surgeon, psychiatrist, orthodontist, etc. This ensures that work on the speech of each child is carried out individually and comprehensively. The speech therapist gives detailed advice to parents, explaining the peculiarities of early speech development in children, talks about home speech development classes, preventive measures for the prevention of speech disorders. It explains how to create the necessary conditions and a positive climate for the normal growth and development of a child in the family.

STATE PROBLEMS

6-month-old child. There is a congenital transitional defect of the upper lip and palate on the 2nd side. The intermandibular bone protrudes forward by 2.5 cm, collapse of the lateral parts is present (closely adjacent to the nasal bone), the central part of the upper lip is not fully developed. The soft palate is shortened in the oral cavity. The pharyngeal ring is dilated.

1. Make a diagnosis.
a) congenital bilateral transitional cleft lip and palate
b) congenital bilateral isolated cleft lip
c) congenital bilateral cleft palate
d) Pierre-Robin syndrome
d) bilateral post-traumatic syndrome of the upper lip
2. Determine the degree according to the classification of L. E. Frolova.
a) 3rd degree*
b) 2nd degree
c) Level 2A
d) 1st degree
d) Level 3B
3. To which dispensary group do you include him:
a) 4B*
b) 2.
c) 3.
d) 4A
d) 1.
4. To which specialist does the child need treatment first?
a) orthodontic*
b) speech therapist
c) surgeon
d) psychoneurologist
d) genetic
5. What operations should be performed on this child?
a) cheiloplasty, cycloplasty, anterior plasty*
b) uranoplasty, recheiloplasty
c) cycloplasty, plasty of the anterior section
d) cheiloplasty, plasty of the anterior section

The child is 2 months old, seeing a doctor for the first time. On the upper lip, there is a red border on the right, skin, a cleft connected to the upper lip through the skin, and a cleft of the alveolar process.

1. Make a diagnosis:
a) Class 1 transitional cleft lip and palate
b) Transitional cleft lip and palate of the 2nd degree
c) isolated cleft lip of grade 2b, latent cleft palate of grade 1b
d) Separate cleft lip and palate of degree 3b

d) separate cleft lip of degree 3b, separate cleft palate of degree 2b
2. Identify the main anatomical disorders:
Cleft lip, alveolar process, contraction of the middle part of the upper lip, deformity of the cutaneous-cartilaginous part of the nose.
3. Identify the main stages of surgical treatment:
a) cheiloplasty, alveolar process plasty, rhinoplasty
b) rhinoplasty, cheiloplasty
c) cheilorhinoplasty
d) cheiloplasty, cheilorhinoplasty

The child is 2 years old. There is a bilateral transitional cleft of the upper lip and palate, grade III. The intermaxillary bone is 2 cm convex, the alveolar process connects to the nasal bone.
Questions:
A) Why hasn't the child undergone cheiloplasty so far?
B) when is cheiloplasty performed;
C) Create a treatment plan;
D) Which specialists are needed to treat this child;
Answers:
a) the condition of the intermaxillary bone, namely its protrusion by 2 cm, does not allow cheiloplasty;
b) Cheiloplasty is performed after orthodontic treatment;
c) orthodontic treatment, phased cheiloplasty, uranoplasty, treatment by a speech therapist, and orthodontic observation until the age of 14;
d) Orthodontist, pediatrician, dental surgeon, speech therapist. Observation by an ENT doctor.

A 1.5-year-old child was admitted to the clinic for grade III A upper lip defect, requiring cheiloplasty.
A) What laboratory tests should be performed for surgery under general anesthesia;
B) What type of anesthesia is used in this child?
Answer:
A) general analysis of blood, urine, feces, liver enzymes, bilirubin, glucose, coagulation, PTI, blood type, and Rh factor;
B) Endotracheal type of anesthesia;

9. Child is 1 year old. First appearance at the polyclinic. At the time of examination and examination: IIB degree left cleft lip was diagnosed. The baby sucked on a pacifier and is breastfed.
A) Was the child operated on in this case?
B) Create a treatment plan for this child;
Answer:
A) In this case, surgery is not indicated, as the child sucked the nipple and breast.
B) separation from the nipple, examination by a pediatrician. In the absence of

contraindications according to laboratory data - cheiloplasty.

10. The child is 8 years old. There is a pronounced deformity of the tip of the nose and the left wing. On the skin of the upper lip, there is a scar in the form of a thin line passing from the floor of the nasal passage to the red border, the shape of the lip is straight, cheiloplasty was performed at 6 months of age.

A) What method of plasty was used in the patient? Name the authors.
B) At what age is surgery performed to eliminate residual deformities in the nose?
Answer:
A) Linear method. Limberg, Yevdakimov, Millard;
B) 15-16 years;

11. A 6-month-old child has a complete bilateral cleft lip. The intermaxillary bone is not convex. Analyses did not reveal any pathology.
A) what surgical method is used in this case;
B) State the sequence of operations;
Answer:
A) method of rectangular or linear plasticity;
B) 2-2.5 months;

12. The child is 1 month old. There is a cleft of the tongue, soft and hard palate, reaching the incisal slit.
A) Determine the degree of defect according to Frolova's classification.
B) what functions are impaired in the child?
C) Which specialists are needed to treat this child?
Answer:
A) Level III B
B) sucking, swallowing, breathing.
C) pediatrician, dental surgeon, orthodontist, speech therapist.

13. The child is 3 years old. There is a grade III A cleft palate according to Frolova. The upper jaw is narrowed.
A) Which specialists the child needs treatment for now and in the future.
B) The purpose of orthodontic treatment.
Answer:
A) 1. Orthodont, 2. Dental surgeon, 3. Speech Therapist, 4. Orthodont
B) Extension of the upper jaw.

14. The child is 1 year old. Congenital left-sided transitional cleft palate, nasal deformity. Condition after cheiloplasty performed 6 months ago.
A) Create a follow-up treatment plan
B) Which specialists are needed to treat this child?

Answer:
A) 12 months - velloplasty, 2.5-3 years - closure of the hard palate defect, 15 years - rhinoplasty.
B) surgeon-dentist, speech therapist, orthodontist.

15. A 2-year-old child has a defect in the palate, the apex of which reaches the middle of the hard palate. The edges of the defect are smooth, the soft palate is contracted, the pharyngeal ring is widened. The palate defect was detected in the maternity hospital from birth.

A) make a diagnosis
B) Create a treatment plan.
Answer:
A) Congenital cleft palate grade III A.
B) at 2.5 - 3 years - uranoplasty surgery after the eruption of 5 milk teeth in the upper jaw, followed by treatment by a speech therapist and orthodontist.

16. A 4-year-old child exhibits confused, unclear speech. During breastfeeding, milk periodically comes out of the nose. At the age of 3, when speech appears, the diaphragmatic sound of speech is detected. Received consultations from a speech therapist, ENT doctor, these specialists did not identify pathologies. During the examination of the oral cavity, a defect in the palatal tissues is not detected. When pronouncing the sound "A," the pharyngeal ring expands, a mucus-like depression appears, which opens along the midline of the tongue and soft palate, the soft palate is excitable.
A) make a preliminary diagnosis.
B) Which specialists should the child consult to clarify the diagnosis?
Answer:
A) Latent cleft of the soft palate.
B) neurologist, speech therapist, ENT doctor.

17. A 5-day-old child has an upper palate and a third-degree left-sided transitional cleft palate. His eating became severely difficult. During an orthodontic examination, it is recommended to prepare an orthodontic plate that separates the oral cavity from the nasal cavity and holds the parts of the alveolar process in the correct position.
A) What is the name of this orthodontic apparatus?
Answer:
A) functional-preforming plate.

18. A 3-year-old has bilateral congenital cleft lip and palate. The upper jaw is sharply narrowed in the frontal and lateral sections. Examination revealed: chronic suppurative otitis media, chronic bronchitis, congenital malformation of the

interventricular septum, giardiasis, and anemia.
A) Which of the listed diseases can be a consequence of cleft palate?
B) Which specialist (dentist) does the child need treatment first?
Answer:
A) Purulent otitis media, chronic bronchitis, anemia.
B) orthodontic.

19. The child is 7 months old. There is a congenital left-sided transitional cleft palate. Deformation of the upper lip and nose after cheiloplasty. Cheiloplasty was performed at 6 months of age.
A) Create a plan for further surgical treatment.
B) What specialists, in addition to dental surgeons, are involved in treating a child?
Answer:
A) 12 months - cycloplasty, 2.5-3 years - closure of the hard palate defect, 15-16 years - recheilorhinoplasty.
B) Speech therapist, orthodontist, pediatrician.

20. The child is 2 years old. There is a second-degree tongue according to Frolova and a separate cleft of the soft palate. Checked, tests are normal. A surgical operation is planned.
A) What operation is performed on the child?
B) Under what anesthesia is the operation performed?
Answer:
A) cycloplasty
B) with general intubation

21. The child is 3 years old. There is a congenital bilateral transitional cleft of the palate of the III degree, the intermaxillary bone protrudes forward by 25 mm. The parts of the alveolar process are closely connected to the nasal bone.
A) Which specialist's treatment does the child need first?
B) What operations are performed on a child?
Answer:
A) orthodontic
B) stage-by-stage cheiloplasty, cycloplasty and closure of the hard palate defect, possibly rhinoplasty.

22. The child is 10 years old. At birth, there are clefts of the tongue, soft and hard palate. At the age of 4, uranoplasty was performed according to the Limberg method. Currently, the child has a hard palate defect and a short soft palate, pronounced rhinolalia.
A) What is the later complication of uranoplasty?
B) What operation is performed at the age of 15-16 to narrow the pharyngeal ring and eliminate pronounced rhinolalia?
Answer:

A) hard palate defect and short soft palate
B) pharyngoplasty

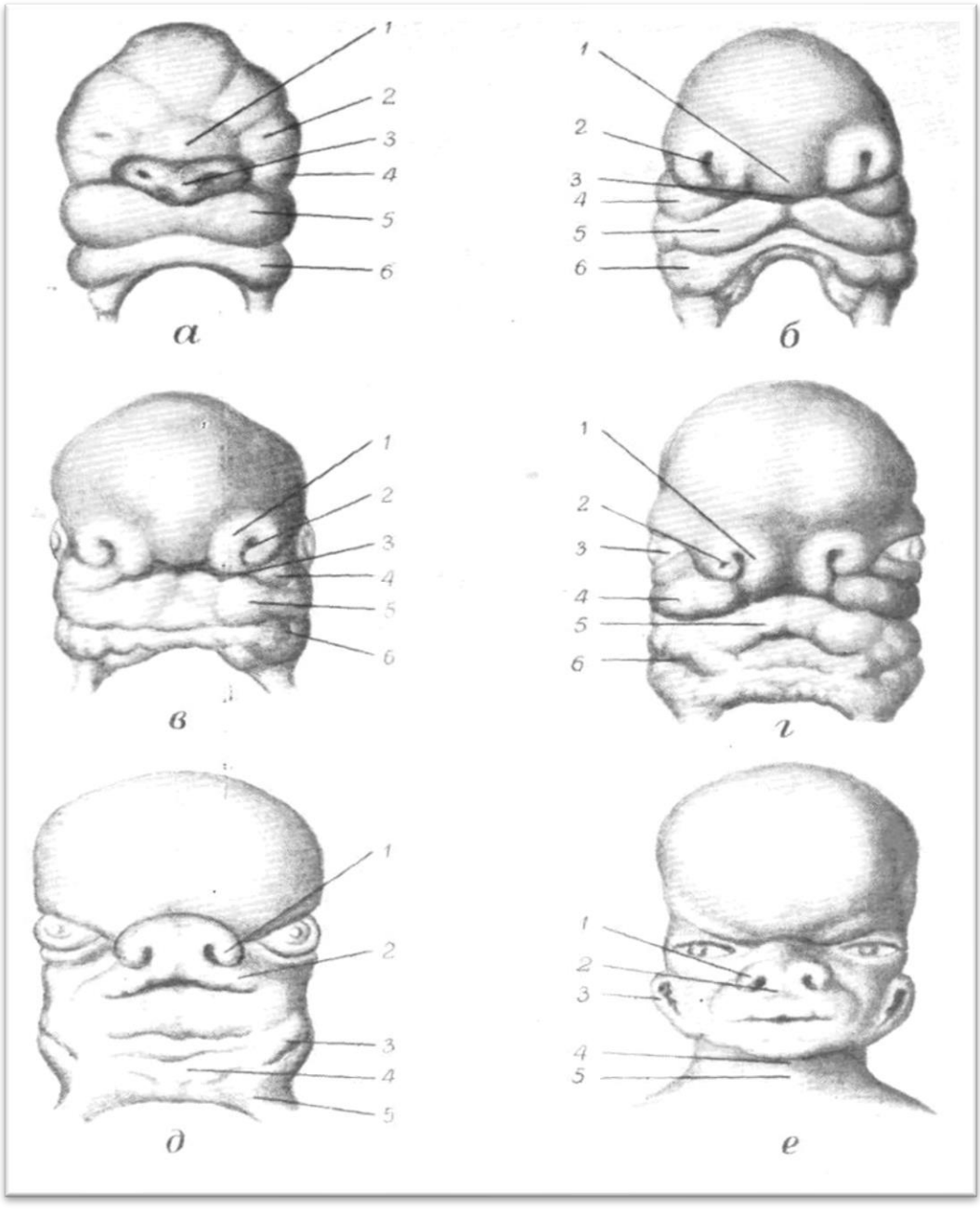
23. A 5-year-old child underwent uranoplasty (according to Frolova-Makhkamov) at the clinic for congenital right-sided transitional cleft palate. Cheiloplasty was performed at the age of 1.
A) What regime is prescribed for the child in the postoperative period?
B) On what day are the seams removed?
Answer:
A) Rest and eating regime (jaw table)
B) 10-11 days

24. Sutures were removed in the child 10 days after Lymberg uranoplasty. There is a defect at the border of the hard and soft palate. The shape of the tangyal is flat.
A) What should be done to give the palate a dome-shaped shape?
B) What is used for this?
Answer:
A) formation of the palate
B) protective plate and trace mass.

HANDOUTS.

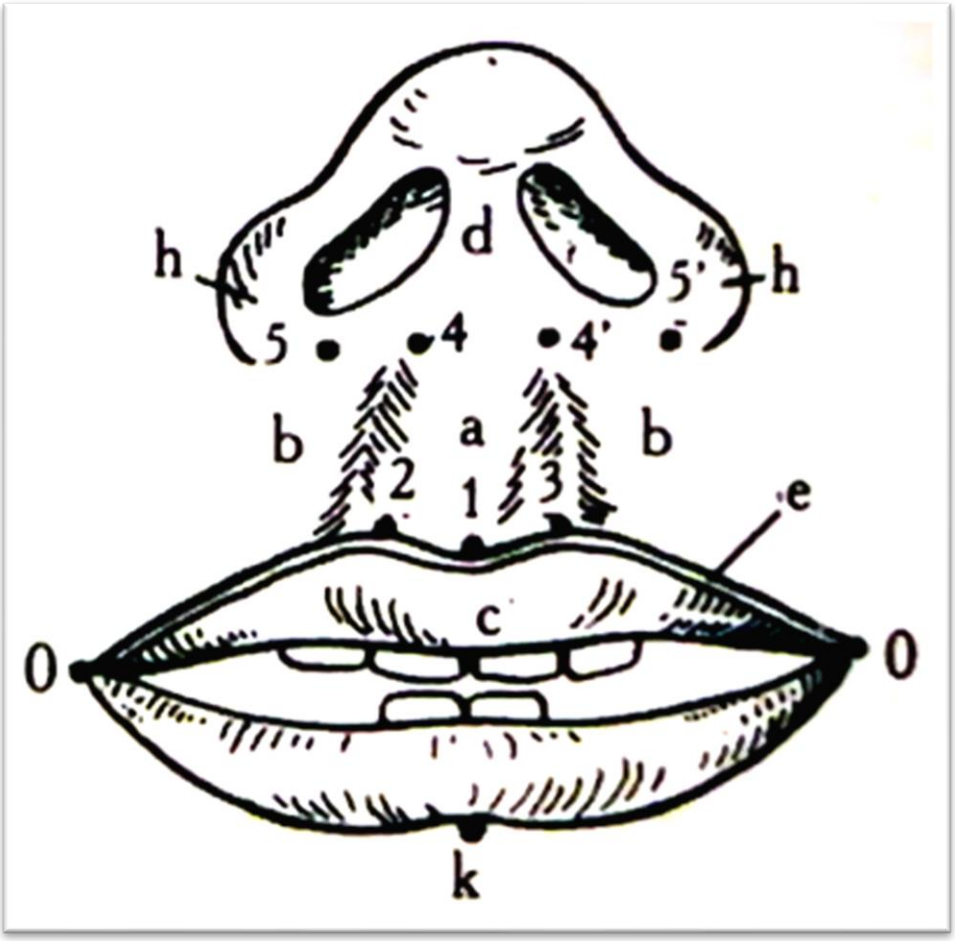
Task 1. Facial embryogenesis.

Determine the dates and write them under the photos.



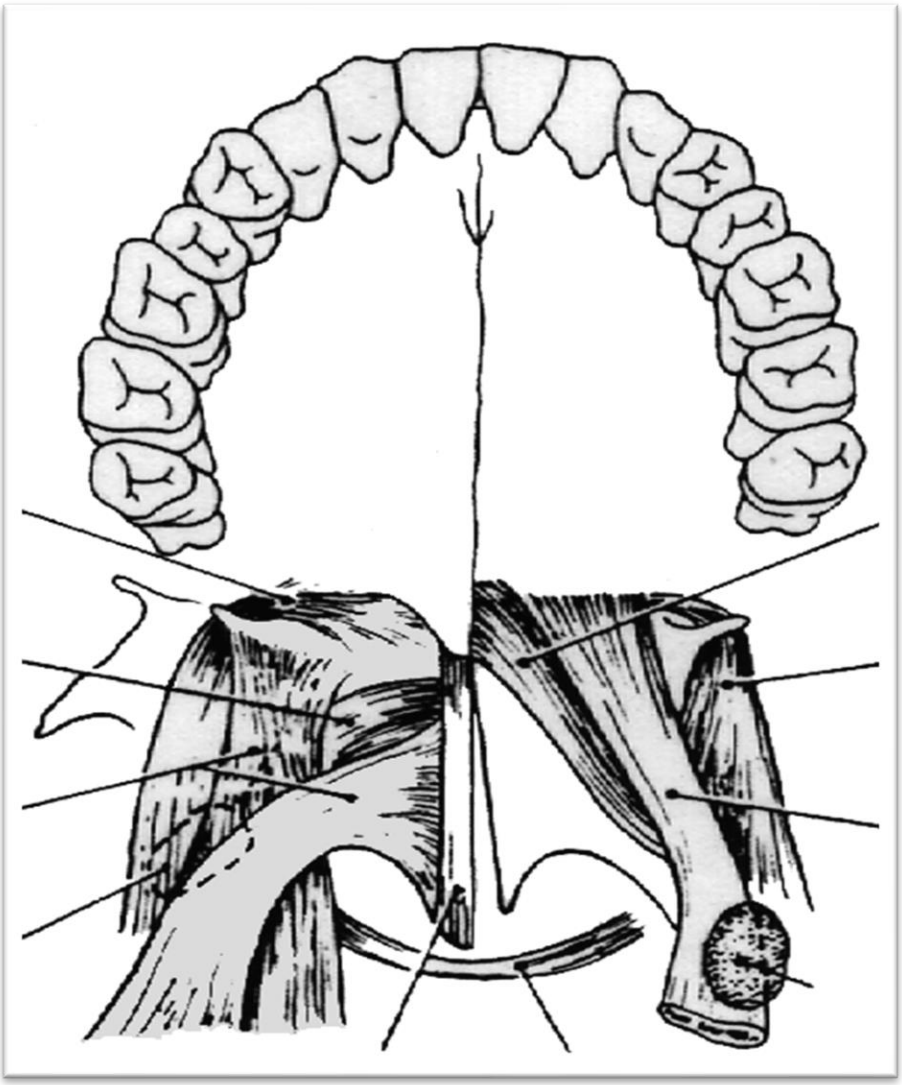
Task 2. Anatomical directions of the upper lip.

Make notes on the photo.



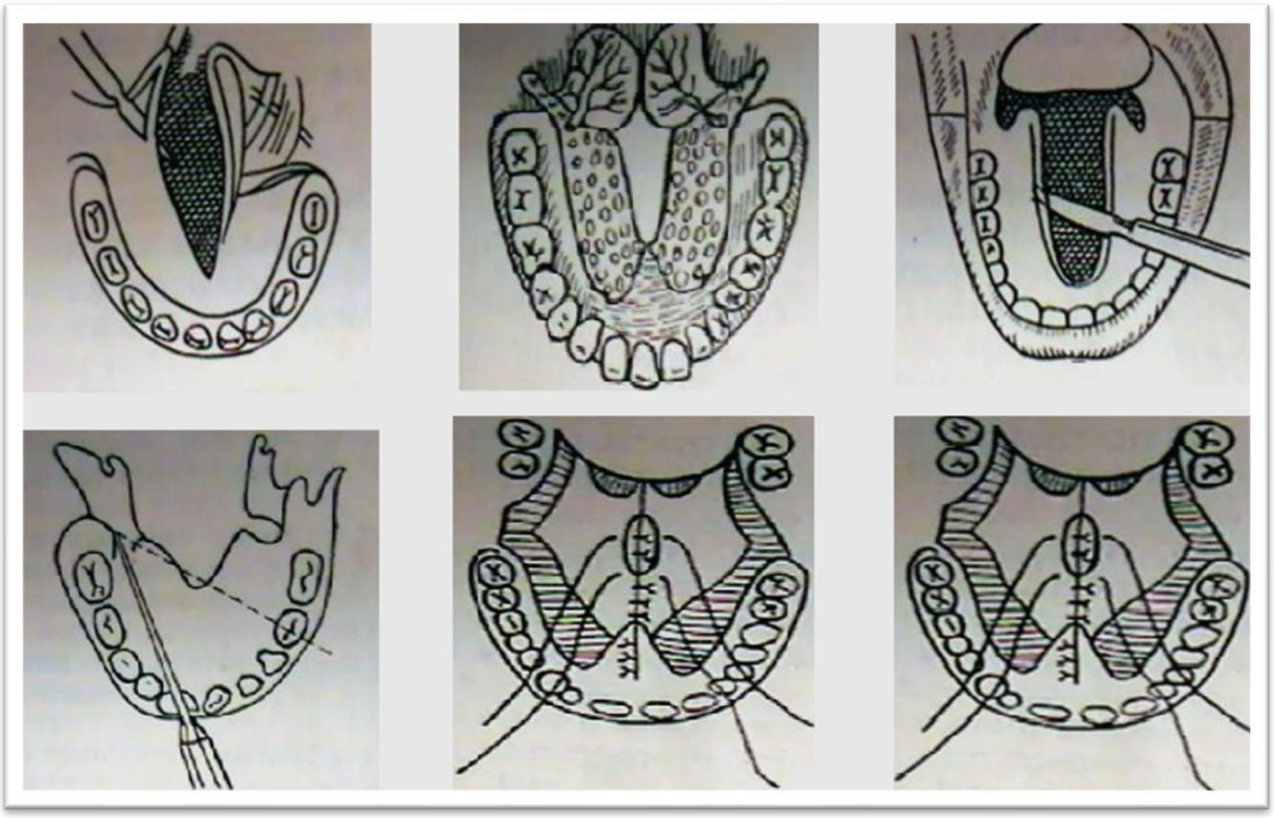
Task 2. Soft palate muscles.

Make notes on the photo.



Task 3. Limberg radical surgery stages

"Put it in its place and make notes"



TASKS FOR STUDENT INDEPENDENT WORK

As an independent work, during the practical training, the student conducts the curation of patients diagnosed with CVD, LTD, or LTTD. During curation, the student: collects complaints and anamnesis of the disease, conducts examination and palpation, analyzes data from laboratory and other types of examination (radiological, ultrasound, patient image, etc.), if necessary, performs anthropometric measurements of the upper lip and palate. At the end of the curation, a preliminary diagnosis of the disease and a treatment plan are formed. Proposes and substantiates methods of surgical treatment, taking into account the form and degree of the cleft. If possible, the student participates as an observer in the operating room, takes pictures, makes notes and takes pictures in a notebook for the student's independent work, and participates in the treatment of the patient under observation. All of the above allows you to fulfill the intended tasks of the training (acquire the necessary practical skills).

Modern literature data and Net reviews as independent work

offers **multimedia presentation themes** based on:

1. Frequency and prevalence of congenital defects of the face and jaw in the world.
2. Congenital facial defects. Causes and mechanisms of their occurrence.
3. Medical and genetic counseling of patients as a method of preventing the development of congenital defects.
4. Congenital facial defects. Transverse cleft of the face. Curvature of the face.
5. Congenital cleft lip and palate. Influence of congenital cleft lip and palate on the general development of the child's body.
6. Congenital cleft lip. Timing and types of treatment for congenital cleft lip.
7. Principles of primary and secondary cheilorhinoplasty.
8. Velofaringoplasty. Principles and methods. Instructions for conducting.
9. Secondary deformation of the jaws in clefts of the palate. Palatopharyngeal insufficiency. Methods of its elimination.

QUESTIONS FOR REINFORCING THE TOPIC:

1. Discuss the specific features of the embryogenesis of the middle facial region.

2. Discuss the clinical manifestations of congenital cleft lip.

3. Discuss the phased examination of patients with LTD.

4. Classification of congenital cleft lip.

5. What are early functional disorders in children with LTD?

6. Indications and contraindications for early cheiloplasty.

7. Advantages and disadvantages of early cheiloplasty.

8. Fundamentals of cheiloplasty at 4-6 months.

9. Types of anesthesia used in cheiloplasty.

10. Positive aspects of the linear method of plastic surgery.

11. Negative aspects of the linear method of plastic surgery.

12. Positive aspects of the triangular method of plastic surgery.

13. Negative aspects of the triangular method of plastic surgery.

14. Early local complications of cheiloplasty.

15. Late local complications of cheiloplasty.

16. Drug treatment after cheiloplasty.

17. Specifics of postoperative care for children

18. Anatomy of the hard and soft palate.

19. Anatomical disorders in TKD.

20. Functional disorders in TKD.

21. Clinical manifestations of congenital cleft palate.

22. Elimination of early functional disorders.

23. Classification of separate and transitional fractures according to Frolova.

24. Classification of TTK according to MMSI.

25. Methods of orthodontic correction of early functional disorders.

26. Age-related indications for soft and hard palate plasty.

27. Preoperative preparation of the patient.

28. Main stages of radical plastic surgery according to Limberg.

29. Methods of conservative uranoplasty.

30. Drug treatment after uraplasty.

31. Post-operative care.

32. Early postoperative complications.

33. Late postoperative complications.

34. Method of forming and conducting the palate.

35. The role of orthodontics in the treatment of patients with congenital cleft palate.

36. The role of a speech therapist in the treatment of patients with congenital cleft palate.

37. Specific features of providing comprehensive care to children with congenital cleft lip and palate.

RESULT

Children with congenital facial defects need multi-stage, long-term treatment, including surgical restoration of the upper lip and palate, prevention and elimination of jaw deformation, speech therapy training, etc. The implementation of the indicated sequential and interconnected complex of therapeutic measures is possible only under the conditions of a specialized center. 70% of patients previously treated for this pathology in other medical institutions require complex repeated corrective and restorative operations, which significantly extends the duration of social and medical rehabilitation of children. In addition, the number of children with congenital and acquired pathologies of jaw development and diseases of the temporomandibular joint, congenital pathologies of the development of the I and II gill arches is growing..

An important condition for the successful implementation of measures for the prevention of congenital cleft lip and palate in the fetus and newborn is their active promotion in the creation of a specialized center for the rehabilitation of children with congenital cleft lip and palate, close cooperation of surgeons, orthodontists, geneticists, obstetrician-gynecologists, pediatricians, speech therapists, psychologists, and other related specialties.

The complex approach has become the only possible approach in the current conditions, and only it leads to optimal results. Therefore, in recent years, specialists dealing with this problem have been paying special attention to solving many issues related to the development and improvement of a comprehensive rehabilitation system for young patients born with congenital cleft lip and palate. This task is solved in the context of joint work of specialists of various specialties and only in the conditions of a specialized center, where highly qualified multi-specialized care can be provided to the patient.

This is why the development of a comprehensive medical rehabilitation program and standards is of such great scientific and practical importance.

Based on the data obtained, taking into account the accumulated experience, currently, the most effective and appropriate approach in the treatment of children

with this pathology is a comprehensive approach based on the organization of a specialized rehabilitation center for children with congenital anomalies of the maxillofacial region. To solve this problem, the specialized center should face the following tasks:

- Identification and hospitalization of children with congenital cleft lip and palate
- Medical and genetic counseling of spouses at risk of developing congenital cleft lip and palate.
- Provision of orthopedic and speech therapy assistance.
- Provision of qualified surgical care
- Socio-psychological rehabilitation
- Medical-educational and practical assistance aimed at improving the qualifications of specialists in the field of medical institutions

The creation of a specialized rehabilitation center for children with congenital clefts of the upper lip and palate will provide an opportunity for accounting, examination, qualified surgical intervention, and constant monitoring by an orthodontist, speech therapist, pediatrician, otorhinolaryngologist, and psychiatrist. Thus, this ensures the possibility of conducting scientific, organizational-methodological, and sanitary-introductory work aimed at improving the provision of specialized care, as well as the comprehensive participation of specialists familiar with the specifics of children's development, who know the issues of treatment and treatment planning of patients.

REFERENCES

Main:

1. Азимов М.И. Юз-жағ травматологияси. Дарслик. - Тошкент. ILM ZIYO. 2016 й.

2. Аманулаев Р.А. Врожденная расщелина верхней губы и неба. Ўқув қўлланма. - Тошкент. ILM ZIYO. 2014 й.

3. Персин Л.С., Елизарова В.М., Дьякова С.В. Стоматология детского возраста. — Изд. 5-е, перераб. и доп. — М.: Медицина, 2003.

4. БезруковаВ.М., РобустовойТ.Г.Руководство по хирургической стоматологии и челюстно-лицевой хирургии: в 2-х томах. Т.2/Под ред. - Изд. 2-е, перераб. и доп.- М.: Медицина, 2000.

Additional:

1. Ананян С.Г. Принципы планирования хирургического лечения у больных с нарушениями функции небно-глоточного затвора //В кн: Восстановительная хирургия челюстно-лицевой области. - М.- 1995.- С.72-74.

2. Беляков Ю.А. Стоматологические проявления наследственных болезней и синдромов. М., Медицина. - 1993.- 117 с.

3. Белякова С.В., Фролова Л.Е. Врожденные пороки развития лица и челюстей: заболеваемость, смертность, факторы риска. //Стоматология. – 1995. – Т. 74. — № 5. – С. 72-75.

4. Белякова С.В., Фролова Л.Е., Загирова А.Ф. Врожденные пороки развития лица и челюстей у детей // Стоматология. - 1996.- т.75, №1.- С. 61-63.

5. Вадачкория 3.0. Основные аспекты медицинской реабилитации детей с врожденной расщелиной неба.: Автореф. дис... д-ра мед. наук. - Тбилиси. - 1996.- 30с.

6. Виссарионов В.А. Реконструктивная хейлоринопластика в системе мероприятий по медицинской реабилитации больных с врожденными

расщелинами верхней губы: Автореф. дис...д-ра мед. наук. - М., 1988.- 40 с.

7. Давыдов Б.Н. Хирургическое лечение врожденных пороков лица. Тверь, 2000.-119 с.

8. Козин И.А. Эстетическая хирургия врожденных расщелин лица. – М., 1996. – 203 с.

9. Мамедов Ад.А. Врожденная расщелина нёба и пути ее устранения. - Екатеринбург. - 1998.- 309 с.

10. Фролова Л.Е. Лечение детей раннего возраста с врожденной патологией развития лица и челюстей // Стоматология. - 1980.- Т.59, - № 2.- С. 75-77.

11. Губайдуллина Е.Я., Цегельник Л.Н. Практическое руководство по поликлиническому разделу хирургической стоматологии. Учебное пособие. - Москва. Медицинское информационное агентство. 2007 г.

12. Персин Л.П. Стоматология детского возраста. Учебник. – Москва. Коллектив авторов. 2006 г.

13. Бельченко В.А. Черепно-лицевая хирургия. Учебник. - Москва. Медицинское информационное агентство. 2006 г.

14. Рабухина Н.А. Рентгенодиагностика некоторых заболеваний зубочел-юстной системы. Учебное пособие. - Москва. Медицина. 2006 г.

15. Leonard B. Kaban, Maria J. Troulis. Pediatric Oral and Maxillofacial Surgery. Textbook. 2004 y.

Websites:

1. www. medlibrary. ru;
2. www. medline. ru
3. www. zdorove.ru
4. www. med.ru
5. www. stom.ru
6. www. stomatologya.ru
7. www: stomat-burg.ru/statc
8. www.rusdent.com
9. www.dental.ru

10. www.esthetics.ru
11. www.cniis.ru
12. medicinform.net/stomat/www.dentist.h1.ru
13. www.dentalsite.ru
14. www.stomatolog.ru
15. www.zub.ru
16. www.vse32.narod.ru
17. www.stomart.ru
18. www.dental-revue.ru
19. www.dental-azbuka.ru
20. www.stomatolog.md