1. Defects of the hard and soft palate according to their etiology are divided into congenital (defects of embryonic development) and acquired (gunshot, trauma, consequences of surgical interventions, complications of diseases).

Congenital defects of the palate are formed as a result of non-fusion of the bones of the upper jaw during the embryonic development of the child. These defects are discussed in more detail in textbooks on pediatric dentistry.

Acquired palate defects have different localization and shape; they can be located in the area of the hard or soft palate, or in both places at the same time. These defects, unlike congenital ones, are accompanied by cicatricial changes in the mucous membrane, changes in the alveolar process and defects in the bone tissue of the upper jaw.

Defects of the hard palate of syphilitic origin have a specific picture. Usually they are located in the central part of the bony palate, have more or less rounded outlines, thin radiant scars are sometimes observed along their edges and communicate with the nasal cavity. In this case, the vomer is often affected by a pathological process. In some cases, there is a sinking of the nose (saddle nose). If the defect involves the area of the soft palate, then the uvula is destroyed and the scars spread to the palatoglossus and velopharyngeal arches, as well as to the posterior wall of the pharynx. It should be noted that with syphilitic lesions of the soft palate, palpation of these areas, as well as the pharynx, does not cause a gag reflex. This point should be taken into account when taking impressions.

Defects in the palate after a gunshot injury have neither strict localization nor any strict outlines, since they depend on the shape of the wounding projectile.

With defects of the hard and soft palate, functional impairments are clearly expressed. The communication between the oral cavity and the nasal cavity disrupts the acts of eating and breathing, and speech is significantly affected. When swallowing, liquid food particles enter the nasal cavity, resulting in a chronic catarrhal condition of the respiratory tract. Speech disorders are expressed in nasality and incorrect sound production.

Nasality is a consequence of the constant escape of air through the cleft into the nasal cavity; This is also facilitated by underdevelopment of the muscles of the palate and pharynx. Disturbances in sound formation arise due to the lack of air pressure in the oral cavity, support for the tongue, necessary for the formation of various sounds.

With defects and shortening of the soft palate as a result of injury, changes in hearing are possible, since the muscle that strains the soft palate (i.e. tensor veli palatini), starting from the cartilaginous and membranous part of the auditory tube, promotes the passage of air into the tympanic cavity. Damage to this muscle leads to a gaping of the auditory tube, which is the cause of chronic inflammation of the inner ear and, as a consequence, decreased hearing.

All injuries to the upper jaw with palate defects should be divided into 4 groups: (classification by Prof. V.Yu. Kurlyandsky):

Group I - defects of the hard palate in the presence of teeth on both halves of the upper jaw.

Subgroups:

a) median palate defect;

b) lateral defect of the palate;

c) frontal defect of the palate.

II. group - defects of the hard palate in the presence of teeth on one half of the upper jaw.

Subgroups:

a) median palate defect;

b) the complete absence of one half of the jaw with the presence of 1-2 teeth on the other half.

III. group - palate defects in the absence of teeth in the upper jaw.

Subgroups:

a) median palate defect;

b) absence of one half of the jaw;

c) complete absence of the upper jaw with disruption of the orbital edge.

IV. group - defect of the soft palate or hard and soft palate.

Subgroups:

a) scar shortening and displacement of the soft palate

b) defect of the soft and hard palate in the presence of teeth on both halves or one half of the jaw

c) defect of the hard and soft palate in the absence of teeth in the upper jaw.

Each group has its own characteristics that are essential for the effectiveness of subsequent prosthetics.

Treatment of acquired palate defects is possible using surgical, orthopedic and combined methods. Surgical interventions consist of closing the defect through plastic surgery. Orthopedic interventions consist of closing or compensating the defect with a prosthesis. Prostheses have an obturating part in their design, called obturators.

The task of prosthetics for defects of the hard palate is:

1. Separation of the oral cavity from the nasal cavity.
2. 2. Maintenance of tissues that have lost bone support.
3. 3. Restoration of the acts of speech, chewing and swallowing.
4. 2. Treatment of patients with group I defects (palate defects with teeth on both halves of the upper jaw)
5. Patients with small defects of the hard palate located in its middle part, with a sufficient number of supporting teeth for clasp fixation, are treated with arched dentures. The arch of the prosthesis carries an obturating part that covers the defect of the palate, somewhat extending beyond its edges.
6. When there are no conditions for fixing an arched prosthesis or there is an extensive defect in the hard palate, a removable plate prosthesis (disconnecting plate) is used. This prosthesis is strengthened on the jaw with the help of retaining clasps (supporting clasps should not be used so as not to interfere with the immersion of the prosthesis), which are placed transversely or diagonally. This prosthesis must fit tightly to the edges of the defect, creating a reliable separation of the oral cavity from the nasal cavity. The most dense closure of the palatal defect can be achieved by forming a base plate on the palatal side - a roller of 0.5 - 1 mm, located around the defect, retreating from it by 2 - 3 mm. Thus, the base plate, plunging into the mucous membrane, creates a closing valve along the periphery of the defect.
7. If the mucous membrane is thinned, stubborn or there are scars along the edge of the defect, an elastic plastic lining can be used to create a tight fit of the prosthesis along the periphery of the defect.
8. Impressions from the upper jaw are taken with elastic impression materials with preliminary tamponade of the defect with gauze napkins.
9. For frontal defects of the hard palate, prosthetics are performed with removable plate dentures, the main method of fixation of which is clasp devices or locking. Crowns are applied to two of the remaining teeth on each side, to which a wire is soldered along the equator: to the first - from the vestibular side, to the other - from the palatal side. The clasps in the prosthesis are designed so that the shoulder of one is located on the vestibular side, and the second on the palatal side. This double fixation of the prosthesis prevents the prosthesis from sagging in the anterior section. In the anterior section of the plate, it is advisable to make a support roller, which improves fixation and eliminates the possibility of food getting into the defect.
10. Lateral defects of the hard palate can be of different sizes. Minor defects may occur when lateral teeth are removed with perforation of the maxillary sinus. To separate the sinus and oral cavity, small saddle-shaped dentures with clasp fixation or telescopic crowns are used.
11. Large lateral defects are closed on the basis of the same principles as median defects, with the formation of a roller on the disconnecting plate (stepping back 2 - 3 mm from the edge of the defect).