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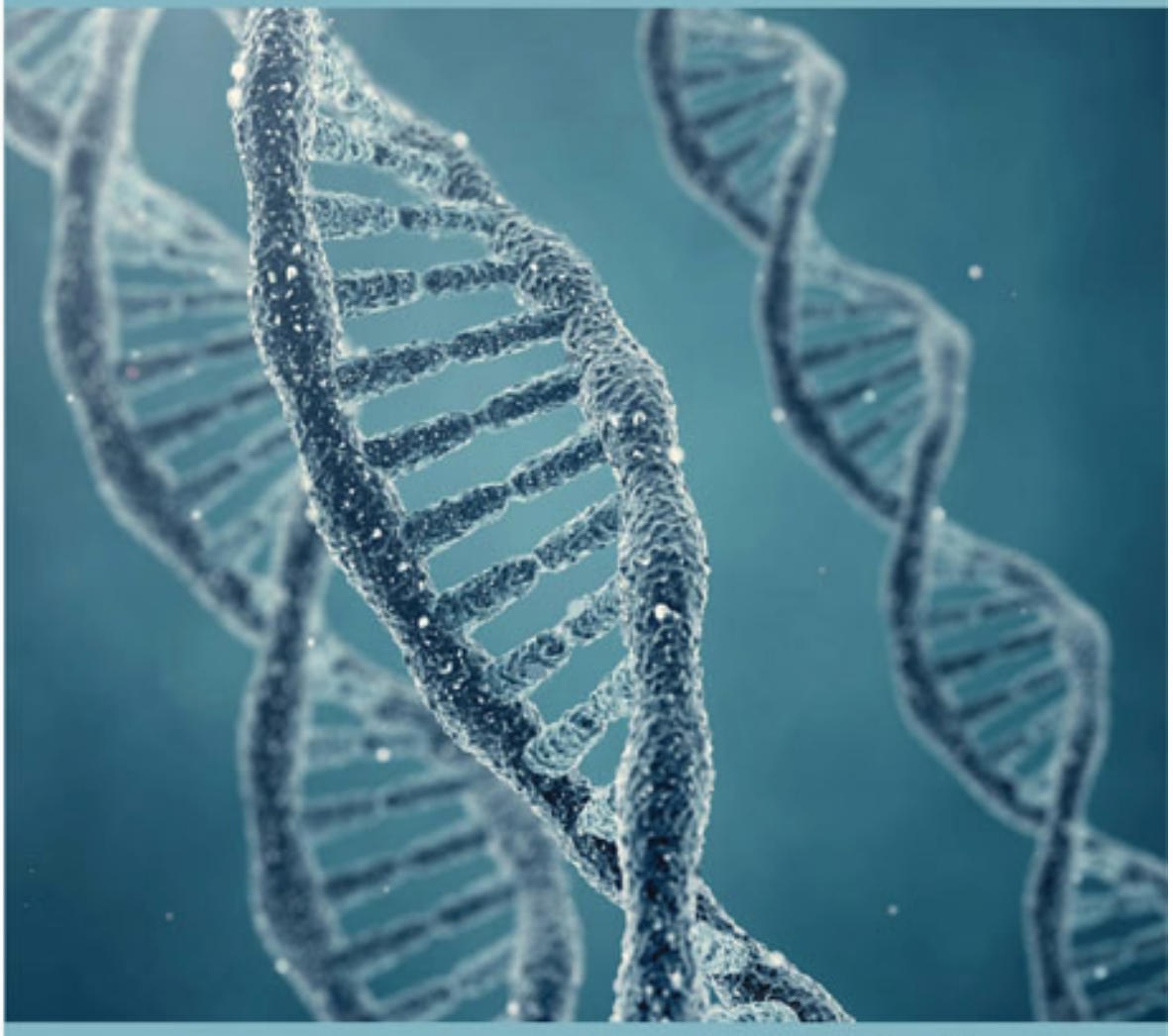

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Anatomic and physiological peculiarities of the buccal region

Abstract: Anatomic structures of the human buccal region provide significant functions of our body, like chewing, articulation, esthetic importance. Sufficient knowledge of the peculiarities of its structure due to the age aspect allows diagnostics and surgical correction of the facial inborn and acquired disorders [1; 2].

Keywords: buccal region, anatomic structures, buccal muscle.

Buccal region is a complex of soft tissues limited by a lower edge of the mandible, lower edge of the eye-socket, front edge of the manducatory muscle, naso-buccal, mouth buccal skin folds. On a comparatively little area numerous anatomic structures are located, like terminal section of the parotid duct, the Bichat's fat pad, blood and lymphatic vessels, nerves. It's worth to mention a high age and sex difference of the area anatomic development. Detailed data about development, variant and microsurgical anatomy, topography peculiarities and microscopic structure of the soft tissues is a morphological basis for understanding of the etiopathogenesis of the inborn disorders and acquired facial diseases [3; 5]. Tissues of the area are also an object of cosmetic surgical interventions and autoplastic material in oral surgery and oncology; that draws scientists' attention to the complex anatomic investigations of the side facial section aiming to develop new methods of surgical correction [6; 7].

Buccal muscle starts from the exterior surface of the alveolar processes of the maxillae and mandible are attached to the pterygomandibular raphe at the place of its connection with the superior pharyngeal constrictor muscle [10]. From outside the buccal space is limited by mimic muscles — major and minor zygomatic muscles. These muscles stretch front medially connecting to the front edge of the upper jaw limiting buccal area from the oral. At the front the space is bordered from oral area by orbicularis oris and levator labii superioris. The buccal space very often connects with the cellular space of the manductory muscle because the fascia parotidea is not joined on its medial surface which causes its connection with the fascia buccopharyngea. They are so called genuine medial and lateral borders of the buccal cellular space. Proximally it doesn't have distinct borders and turns into adipose tissue of the fossa temporalis, and distally — in mandibular cellular space where inflammatory processes may spread. Adipose cells in the back section of the

buccal area gradually decreased and can be a remnant of the buccal adipose body. It resembles the fat pad of the eye-socket and differs from the hypodermic adipose cells by the morphological structure. This type of adipose tissue provides facial muscle movement; this provides the mouth opening and closing movements. From the central buccal adipose body four outgrowths disperse, closely fitting the buccal muscle.

Anatomic peculiarities of the buccal adipose body structure are very significant for plastic and cosmetic surgery. Due to the scientists' [6, 9] investigations three sections are outlined — front, middle and back according to the topography, fascia, connection and blood supply sources' peculiarities. Back section disperses into outgrowths. The buccal adipose body is fixed by seven connections to the upper jaw of the malar arch back part to the interior and exterior edges of the orbital fissure, tendon of the temporal muscle or buccal membrane. Every section lives on some blood vessels; they develop a plexus under the buccal adipose body capsule. Its main function is to serve as a soft shell of the buccal deep tissues and provide chewing and mimic. The buccal adipose body size changes during ontogenesis.

The buccal area has the parotid duct, minor salivary glands, additional particles of the aural gland, facial and buccal arteries, facial vein, lymphatic vessels, and branches of the facial and mandibular nerves. Facial vein usually situates along the lateral edge of the buccal muscle, somewhat higher that the main Stensen duct. Additional isolated particles of the parotid duct are observed in 21 % of cases [12] and are situated along the parotid duct. Minor salivary glands usually are not visualized on CT and CAT scans but they may take part in inflammatory or oncologic processes.

The main parotid duct is placed diametrically through the buccal adipose body going through the buccal muscle in front of the maxillary second molar. This duct divides buccal cellular space into two almost similar sections — front and back. Analysis of the adults' CT scans shows that the size of the back section is less than the one of the upper section and the cellular space [5; 9].

The most important nerve structures of the buccal cellular space are the buccal radicle of the facial nerve and buccal branch of the mandibular nerve. Branches of the facial nerve going through the parotid duct flow in the buccal area parallel with the parotid duct, innervate the buccal and mimic muscles limiting the buccal cellular space from outside [8; 9]. Buccal branch of the mandibular branch of the tri-facial nerve appears lower the oval opening of the wedge-shaped bone in the manductory cellular space through its free back side. This nerve innervates mucous membrane covering the buccal muscle and skin covering the buccal area.

The main arterial structures of the buccal cellular space are the facial arteries with their end sections — angular and buccal artery. Facial artery is the branch of the external carotid artery, comes out of the carotid vessels and goes through the buccal cellular space to the nasal labial area. Buccal artery comes from the maxillary artery in the subtemporal pit and goes through the manductory cellular space to the back medial border of the buccal cellular space between the medial edge of the manductory muscle and lateral edge of the buccal muscle. On the external surface of the buccal muscle the buccal artery branch develops an arch which anastomoses with the branches of the facial artery [2; 3].

Facial vein goes along the lateral edge of the buccal muscle going through the buccal cellular space from the nasal labial area to the issue of the external jugular vein. Among numerous ducts of the facial vein there is a deep facial vein which goes among the wedge-shaped plexus in the manductory cellular space and the angualar vein. The connection of these veins with the orbital veins can be an anatomic way of the infection spread from the surface veins in the deep ones and cause sinus thrombosis [14].

The range of diseases occurring in the buccal area usually has an embryologic, infectious or nonplastic etiopathogenesis. An additional tissue of the parotid duct, the inborn fistula of the parotid duct, dermoid cyst, and vessel anomalies in general are the development disorders of the tissues buccal areas [2; 3, 14].

An extra tissue of the parotid duct occurs approximately in 20 % of population, occurs in the buccal cellular space, usually in front of the parotid duct joining the front edge of the manductory muscle. This pathology is found in the result of the CAT scan. Extra tissue of the parotid duct can be uni- or bilateral; histologically and physiologically is identical to the tissue of the main parotid duct [8].

Thus, the analysis of the literature proves the topicality of the further investigations of the anatomic peculiarities, variant anatomy and topography changes of the buccal area. Scientific data of the morphogenesis and anatomic reasons of the inborn pathology of the buccal area remain fragmentary and contradictory [17]. Needs of the modern general oral-facial children's and plastic surgery, traumatology, oncology require morphological investigations for developing the existing and new methods of the prenatal diagnostics and surgical correction of the buccal area disorders. The task of the morphological science to our mind is complex investigation of the development of the buccal area structures' topography in the early ontogenesis.

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Role of hemostasis violations in ART programs efficiency in women with hepatobiliary system pathology

Abstract: Investigations of the hemostatic system in 50 women with hepatobiliary disorders (study group) and 40 women without such disorders (control group) who are preparing for ART programs. Violations platelet hemostasis (increased platelet aggregation in the presence of their quantitative and morphological changes) and external activation (fibrinogen and growth PTI) and internal pathways of blood coagulation (APTT reduction and recalcification time) are revealed. The identified changes are more pronounced in women, who hold ART programs proved unsuccessful, which requires timely diagnosis and correction.

Keywords: hepatobiliary system, infertility, assisted reproduction, hemostasis system.

Contents