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Morpho-topography of the buccal area of face

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Abstract

This work is carried out according to the plan of scientific research work of the Department of surgical and orthopedic dentistry of the faculty of postgraduate education at Danylo Galytsky Lviv National Medical University,, Clinical and experimental substantiation of the application of surgical and orthopedic technologies in the diagnostics, treatment and prevention of dental diseases of patients caused by the defects and deformations of the maxillofacial system" (State registration number 0115U000047; IH 30.00.0005.15). The study is devoted to investigation of morpho-topography of the buccal area of face in way of layer preparation of the buccal area of face, micropreparation on the corpses and research of removed buccal fat pad. It is established that the buccal area of face has a number of topographic-anatomical features: the skin is thin, elastic, firmly connected with the subcutaneous fatty tissue; under their own fascia is a thin connective tissue fascia, which is the external sheet of fascial capsule of the buccal fat pad; deeper is the layer of loose connective tissue filled with varying degrees of fatty tissue (Bichat's fat pad); under the buccal fat pad is a deep sheet of connective tissue capsule of Bichat's fat pad; there is submucosal vascular interlacement in a submucosal layer. It is proved that the buccal fat pad is a separate morpho-functional structure, in which there is a certain amount of fatty tissue, that accordingly gives form to the cheek and facial area on the whole.

Keywords: layer preparation, buccal area of face, buccal fat pad (Bichat's fat pad), morpho-topography of the buccal area

Introduction

The anatomical structures of the buccal area of person provide important functions in the human body such as chewing and articulation and have a large aesthetic value ^[1-5]. The buccal area of person is one of the most accessible in maxillofacial surgery, that is rarely struck by the purulent-inflammatory processes. At the same time the tissues of this area are often used as a plastic material for the plastic of defects in oral cavity ^[2-4]. Especially in recent years for transplantation scientists began to use the buccal fat pad ^[3;4]. Therefore, the in-depth study of this area, first of all the buccal fat pad, is actual and will allow to conduct the events of surgical correction of congenital and acquired defects of the maxillofacial area more effectively.

The purpose of this work is in-deep study of morpho-topography of the buccal area of face by the way of layer preparation of the buccal area of face, micropreparation on the corpses and research of removed buccal fat pad.

Results and Discussion

According to our research, the skin of the buccal area is thin, elastic, easily displaced, but it is closely connected to deeper underlying subcutaneous fatty tissue, which moves with the skin. Subcutaneous fatty tissue filled with fat and loose fiber tissue. Deeper is a thin fascial plate, which continuously moves into nearby areas. This is the superficial fascia that separates the subcutaneous fat fiber from the deeper lying tissues. Its run through a series of nerve endings of the trigeminal nerve, tendon of facial muscles, which are fixed in the skin and small branches of arteries and veins that connect the vessels of face with subcutaneous vascular plexus. Under the superficial fascia is a layer of loose fiber which loosely separates it from the other more dense deeper underlying fascial sheet. Here are branches of the facial nerve and veins of the superficial venous plexus. This fascia is fixed at the lower edge of malar bone is continuously goes into the parotid-masseter fascia and towards the edge of the lower jaw goes into the buccopharyngeal fascia. To the front direction is woven into the mimic oral ring fascia and malar muscles. Deeper lies another fascia, which is between the external edge of the circular oral muscle and the front edge of the masseter muscles tightly fused with previous, in wing palatal direction goes under the masseter muscle and is fixed to the wing-mandibular

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suture and in underorbital part goes under the malar muscles and muscle-booster upper lip and fixed in the periosteum of the upper jaw body [4, 5]. This is a superficial fascial sheet capsules of the buccal fat pad (Bichat's fat pad), under which lies a layer of well-defined loose fiber filled with varying degrees of fat. Here is a ramified net of small vessels that depart from the branch of the facial artery. Under the layer of fascial tissue is a thin fascial plate that is a deep sheet of fascial capsule of the buccal fat pad and fixed where is its surface sheet. This fascia is separated by a thin layer of loose fiber from the buccal muscle that lies deeper. The buccal muscle fibers are horizontally, starting from the wing-underjaw seam and woven into the circular oral muscle. In the back upper third it penetrates the duct of the parotid salivary gland [1, 2]. On the top of buccal muscle lies facial artery, which is around the body of the lower jaw in front of the front edge of the masseter muscle is in the interval between the back edge of the circular oral muscle and the buccal muscle comes under the malar muscles and booster of the upper lip is directed towards the inner corner of the eye. Throughout the facial artery has a sinuous course, often branching and at the upper edge of the corner of mouth anastomose with the transverse artery of face. Behind the facial artery passes the facial vein, which has a predominantly forward direction [3, 4]. Under the buccal muscle is the mucous membrane of the buccal area of the vestibule of oral cavity, separated from it by a distinct layer of loose fiber, in which is undermucous vascular plexus. In loose fiber on its own fascia parallel to the lower edge of malar arch passes the duct of the parotid gland, in front of the front edge of the masseter muscles breaks it, the buccal fat pad, the buccal muscle and opens by a papilla in

the mucosa at the level of base of the crown of second upper premolar. Duct of the parotid salivary glands not in all cases breaks the fatty body. Thus, the buccal area of face is a complex of morphological structures (Fig. 1), which stands out fatty body [4, 5].

The buccal fat pad is a separate morpho-functional structure, in which depending on the age and functional state there is a certain amount of fatty tissue, which respectively gives form to the cheek and buccal area on the whole [1, 2, 5]. It consists of the fascial capsule, where are superficial and deep sheets. Between the sheets lies a layer of well-defined loose fiber and fatty tissue and net of small vessels (Fig. 2). The buccal fat pad has an irregular shape and extends by its connective sprouts in the nearby areas, fixing in the fascias and the periosteum of these areas. Conditionally, the buccal fat pad should be divided into 3 parts: underorbital (front), buccal (middle) or primary and wing-palatal (back). The middle is the main part, which is more filled with fatty tissue; basically takes the interval ahead of the masseter muscle, between the lower edge of the body of malar bone, the upper edge of the body of the lower jaw, a circular oral muscle in front and above the buccal muscle. The underorbital part takes the interval under small and large malar muscles and fascial sheets in the form of sprout are under the muscle that up the upper lip and wing of nose. The fat tissue in this part is comparatively less. Back wing-palatal part is located under the masseter muscle in the direction of branche of the lower jaw. Here between the sheets of the capsule of the buccal fat pad in loose fiber are the blood vessels from branches of the facial artery, which branch out towards the middle (main) part. The fat tissue in this area is much smaller.

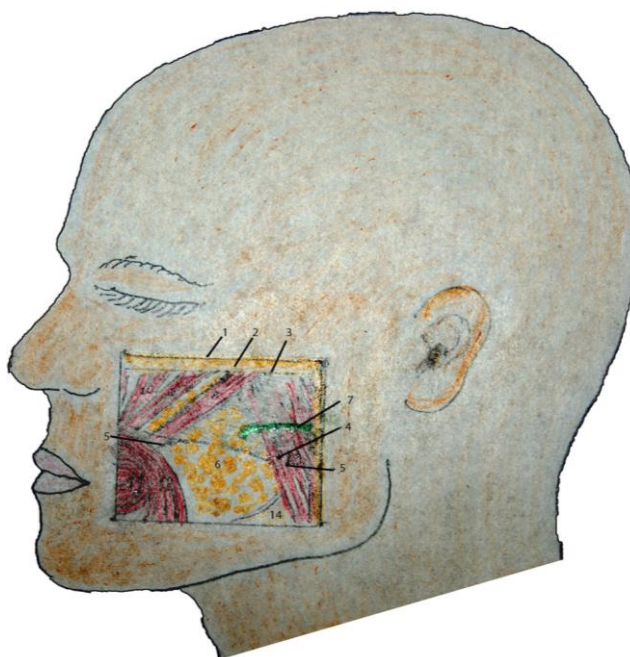


Fig 1: Schematic representation of the drug of buccal area of face

1. Skin. 2. The subcutaneous fatty tissue. 3. Superficial fascia. 4. Own fascia. 5. Superficial fascial sheet of capsule of the buccal fat pad. 6. Buccal fat pad. 7. Duct of the parotid gland. 8. Large malar muscle. 9. Small malar

muscle. 10. Muscle-booster of the upper lip. 11. Circular oral muscle. 12. Muscle lowering the angle of mouth. 13. Masseter muscle. 14. Body of the lower jaw.



Fig 2: Anatomical drug of the buccal area of face of the head of corpse of a woman 68 years. Fixation with formalin. Natural size. Layer preparation of the buccal area of face (A - prepared buccal fat pad).

Conclusions

The obtained results show that the buccal area of face has a number of topographic-anatomic features:

1. The skin is thin, elastic, closely connected to subcutaneous fatty tissue.
2. Under its own fascia is a thin connective tissue fascia, which is the external sheet of the fascial capsule of the buccal fat pad.
3. Deeper is the layer of loose connective tissue filled with varying degrees of fatty tissue (Bichat's fat pad).
4. Under the fat pad is a deep sheet of the connective tissue capsule of the buccal fat pad.
5. In the submucosal layer is submucosal vascular plexus.

So, conducted studies of the anatomical features and topography of the buccal area of face are the morphological basis for the improvement of existing and development of new methods of surgical correction of the maxillofacial area.

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