

Case Report

Surgical treatment of bite wound of the upper lip with simultaneous use of plastic repair with local tissues

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Abstract

The article describes a clinical case of surgical treatment of bite wound of the upper lip by primary surgical treatment of the wound, the wound suturing with simultaneous use of plastic repair with local tissues. Peculiarities of the surgical treatment of bite wounds of this area, methods of complications' prevention are discussed.

Keywords

ecrinne porocarcinoma, malignant adnexal skin tumors

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Background

Treatment of facial bite wounds is an urgent problem of recent times [1, 2]. In the USA they record of 500-600 thousand bites per year [2], most injuries are caused by dogs. In Ukraine, the percentage of this type of injury is also high; according to the data of Ministry of Health because of animal bites 110 thousand persons seek help each year [3]. One of the causes of this type of injury is low culture of pets' care, as well as increase of the number of homeless animals. Most injuries fall at the dog bites – 70-93%, 3-15% – at the cats' bites, 1% – wild animals [4]. Dangerous areas for bites are: the head, face, neck, which constitute 51% of bites, among them there are severe bites – 40.8%. According to the sources, most injuries in the face and neck area are caused by stray dogs, according to other authors – by pets [5, 6]. Traumas of the face and neck are accompanied by soft or bone tissues' injuries. The complexity of diagnosis and treatment of soft tissue injuries of the maxillofacial area are mainly associated with anatomical and topographic peculiarity of the face and a high probability of complications. Considering advances in diagnosis and treatment of maxillofacial area injuries, this problem is still topical. It is important to examine these patients and to help them taking into account peculiarities of the wound location.

Clinical examination involves identifying the symmetry or asymmetry of the face, the location of the wound, the volume and presence of bleeding, tissues of the wound walls (muscles, subcutaneous fat) and their state, the presence of exposed bone, ratio to physiological cavities (cavities of the mouth, nose, eye socket), signs of inflammation, necrosis. Important peculiarities of the facial bite wounds are aesthetic disorders, dysfunction of chewing, swallowing, speech, and the presence

of teeth. Bite wounds have jagged, broken-ragged edges, defects of the tissues and flap fragments.

X-ray examination can detect the peculiarities of facial bones' injuries, the direction of fragments' displacement, evaluate the effectiveness of methods for fixing the fracture site, and timely detect complications. In ultrasound examination the liquid formations are found – purulent cavities, hematomas. Use of computed tomography makes it possible to specify the location of the fracture in its presence, character of splinters' displacement [7].

Examination of the wound microflora is carried out for choosing the correct antibiotic-prophylaxis. Some authors inform that the typical culture of infected bite wound is *Streptococcus* [8]. It is believed that *Staphylococcus aureus* in monoculture or associations has the main role in the development of purulent-septic complications of bite wounds, rarely gram-negative bacteria are found.

As for the choice of treatment tactics of the facial bite wounds there is no common view. After all, there are several factors that should be considered in the provision of surgical care. We know that the face has areas that are prone to scar formation of colloidal cicatrixes (upper lip, inner corner of eye, cheek lateral areas), and it is not always possible to achieve a satisfactory result of treatment [9]. The wounds of the soft tissues of maxillofacial area have their own characteristics, determined by that the face – is a site of concentration of all sense organs (vision, hearing, smell), which is close to the CNS. The face is of great aesthetic value to the human being, so its injury is tolerated very difficult. From our point of view, it is important to highlight peculiarities of the provision of the aesthetic surgical care to the patients with facial injuries.

1. Case Presentation

Patient M., 39-aged person with the bite wounds of the upper lip and left side wall of the nasal wing was brought into the maxillofacial department of the Ivano-Frankivsk Regional Clinical Hospital. According to the victim's words, this injury was got due to the bite of his own dog. Objectively: General condition of the patient was moderately severe. Conscious clear. Vesicular breathing in the lungs. Cardiac tones clear, rhythmic. Blood pressure – 125/80 Hg. Pulse – 74 beats/min. The body temperature – 36.6C. Abdomen was soft, painless. Pasternatsky symptom was negative on both sides. Locally bite wound in the area of the upper lip size 5.9*1.4 cm, defect of soft tissues in the upper lip, the wound of the left lateral wall of the nose wing, bleeding were observed in patient (Fig. 1). Oral mucous membrane was without visible pathological changes.



Figure 1. Photo of a patient. There is a bite wound in the area of the upper lip size 5.9*1.4 cm, defect of soft tissues in the upper lip, wound of the left lateral wall of the nasal wing

The patient was offered to perform an initial surgical debridement, with simultaneous plastic repair of local tissues under local anesthesia on the background of pre-medication, the written consent was received (Surgical record 1106 from 19.11.1016) (Fig. 2). To prevent complications, the patient was performed anti-inflammatory treatment, antibiotic therapy (solution of Ceftriaxone 1.0 – 2 times a day during 5 days). Providing of anti-rabies assistance was conducted according to the order of MOH in Ukraine 205 from 15.04.2004. On the 7th day after surgery sutures were partially removed (Fig. 3); in 1 day there was the complete removal of the sutures. On the 10th day the patient was discharged from the hospital with the improvement. Control examination was performed after 2 and 4 weeks.

Modern development of the Dentistry and Anesthesiology creates the conditions for performance of more medical procedures and manipulations, as pain relief is an important part of dental care providing. An essential condition for the surgery



Figure 2. Face of the patient after surgery



Figure 3. Face of the patient after (7 days) of operation

is the diligent performance of local wound treatment with removal of nonviable tissues; special attention should be paid to areas near the red border of the lips, around the boundaries of the eyelids and eyebrows. In carrying out surgery one should seek to minimize the tension along the operational sutures, including subcutaneous sutures, adequate mobilization of the wound edges, if necessary, delayed removal of skin sutures (12-14 days after operation). Important aspects in liquidation of injuries in the lips' area are lip fringe marking with the purpose of lip contour storage during operative intervention, in the full-layer defect – 3-row suturing of the lip (circular muscle of the mouth, mucous membrane, skin) [10]. In operations in the area of the upper lip, atraumatic monofilament suturing material size 6-0, 7-0 on cutting needles for skin sutures and circular needles for mucous membrane were used. For subcutaneous sutures suturing material size 4-0, 5-0 monofilament or

braided suturing material that is dissolved, were used [11, 12]. Mostly simple noose suture was used. To improve the conditions of postoperative scar formation adhesive plaster was used.

Achievement of maximal cosmetic result is possible only in adequate wound sanitation and its closure during the initial treatment with thorough care and appropriate antibacterial therapy in the postoperative period. The decision on whether to close the wound or to leave it open, is made based on the assessment of risk of infection, localization, severity, patient's age and concomitant diseases. An important part of treatment is the responsible attitude of a patient to the received trauma, in particular the implementation of doctor's prescriptions. Another important component is the adequate assessment of the trauma severity by doctors and proper treatment tactics of bite wounds. One should remember that healing of the facial wound goes much faster than in other parts of the body. This is because the cells here have a high potential for regeneration and blood supply to this area is intensive. That is why after the complex of therapeutic measures the important aspect is the evaluation of treatment results. The result is considered satisfactory when there are no aesthetic defects, functional disorders, further surgical interventions. To evaluate the result clinical examination of the patient and photographing in dynamics are used.

2. Conclusions

The wound on the face is one of the most frustrating injuries that cannot cover with the clothes and to hide from prying eyes. They spoil the appearance, force to wear a bandage and threaten with the formation of scars in future, which may remain for whole life, creating a lot of inconveniences: discomfort and pain while smiling, communication, facial expressions, meals, etc. To prevent this, firstly one must visit a surgeon for the proper treatment of damaged site and to undergo a course of treatment. The cleverer care for the injured area, the sooner and without consequences the healing will take place. At the example of the clinical case of surgical wound treatment and simultaneous use of plastic repair with local tissues, we succeeded in restoration of the functions of speech, eating, and aesthetic appearance of the patient.

Surgical treatment of facial bite wounds despite the gained experience, the large number of antibacterial medicines, is important. As a matter of choice of surgical treatment tactics, postoperative care, prognosis and treatment of complications remain open.

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