



SURGICAL TREATMENT OF OSTEOMYELITIS AFTER FRACTURE OF THE LOWER JAW

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ABSTRACT

Facial fractures are often the result of physical fights and traffic or sports accidents. The presented case of a patient admitted for treatment in a clinic with a fracture of the lower jaw after a fall while riding a bicycle is complicated by a concomitant disease - depressive disorder, which puts the treatment at risk outside the hospital environment. The patient was treated by placing standard Vassilev splints and soft fixation with elastics, using drug intravenous treatment with Clindamycin 600 milligrams 2 times a day, but during the patient's stay in the clinic he cut the elastics several times and this removes the fixation of both jaws. After a few weeks, the patient returned to the clinic with signs of an unhealed fracture and the presence of an acute inflammatory process - osteomyelitis. An intra incision was made and the osteomyelitic focus was extraorally extracted, achieving good healing.

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INTRODUCTION

The field of traumatology has undergone significant development over the past three decades, evolving from basic conservative treatment, especially during the two world wars, to the development of plate osteosynthesis and predictable and stable treatment options (1). Alternative treatments in some cases still include conservative therapy as well as various methods of treating occlusion without internal or external osteosynthesis (2). Facial fractures are often the result of physical fights and traffic or sports accidents (3). Cheek and jaw fractures, along with nasal bone fractures (which are usually poorly represented in the literature), are the most common facial fractures due to the open position of the affected structures (3). Tension in the masticatory muscles can also lead to secondary dislocation and displacement of these fractures. In addition, bilateral fractures of the condylar process can lead to increased width of the dental and mandibular arch. With purely conservative measures to reposition and maintain this trend, it is difficult to counteract (4).

Osteomyelitis is an inflammatory disease of the bone that usually begins as an infection of the medullary cavity, rapidly spreading to the Haversian system, and rapidly spreading to the periosteum of the area (5). It develops in the jaws after a chronic odontogenic infection or for various other reasons such as trauma, inadequate fracture treatment or irradiation of the

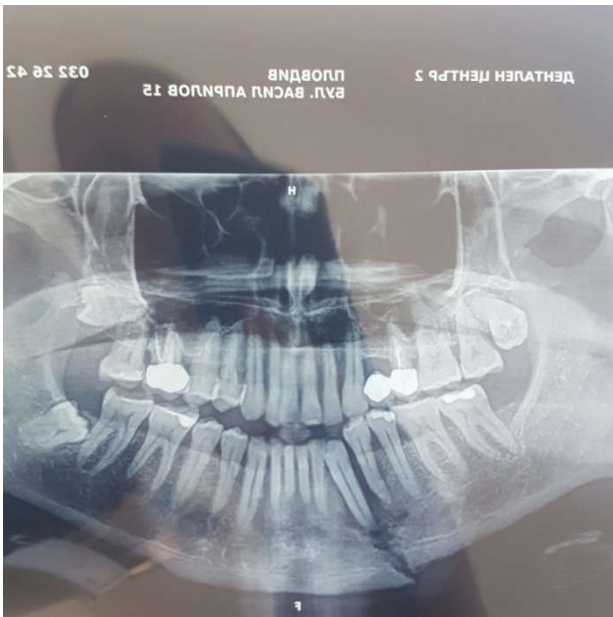
lower jaw. When antimicrobial agents or drainage fail, acute osteomyelitis can become chronic. Conventional radiography, culture, bone biopsy, radioisotope bone scan, laser Doppler flowmetry, computed tomography and magnetic resonance imaging are used for its diagnosis.

Description of the Case

In this article, we consider a case of a patient who developed osteomyelitis as a complication after treatment of a mandibular fracture. The patient has an accompanying disease - depressive disorder. The patient was admitted to the clinic as a matter of urgency after a bicycle fall and a fracture of the lower jaw, which was found. Treatment was performed by placing standard Vassilev splints and soft fixation with rubber bands, offering medical intravenous treatment with Clindamycin 600 milligrams 2 times a day. During the patient's stay in the clinic, he repeatedly cuts the rubber bands and thus removes the fixation of both jaws, which complicates the healing process. The patient's splints were removed 30 days after placement. A few weeks later, he presented with facial asymmetry due to swelling around the lower jaw in the area of the fracture line. After the orthopantomography, an unhealed fracture and the presence of an acute inflammatory process - osteomyelitis were established.

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Picture 1 before the treatment of the fracture



Picture 2 X-rayphoto with the rails



Picture 3 before removing the rails

DISCUSSION

Postoperative infections and wound complications are among the main complications of any surgical treatment. Knowing patient-specific factors in cases of wound healing disorder, which may ultimately lead to fixation failure, would counteract such complications.

Osteomyelitis is a bone disease characterized by inflammatory processes, including necrosis of mineralized and bone marrow tissue, suppuration, resorption (6).

The sequence of events in wound healing is modified by various factors which, depending on the circumstances, may be therapeutically affected and include the type of wound, the size of the defect, the degree of tissue damage, the level of contamination, the inflammatory condition (7).

The main cause of osteomyelitis is usually microbiological and results from odontogenic infection, complication after extraction, inadequate removal of necrotic bone, early discontinuation of antibiotic therapy, inadequate selection of antibiotics, diagnostic failure, trauma, inadequate fracture treatment (8).

In the case studied, the possible causes of the complication are probably due to non-compliance with personal hygiene, as well as limited treatment options, given that the patient is unable to pay for the synthesis plate, which is not covered by the Health Insurance Fund. Other possible reasons are the non-administration of oral antibiotics after discharge or the wrong choice of treatment for this type of fracture, and given the concomitant disease, treatment with lamellar osteosynthesis of the fractured jaw should have been chosen.

In the last 15 years, there have been isolated cases of osteomyelitis (5), due to the development and variety of antibiotics, which treatment was administered to the patient in a hospital setting, where it was possible to temporarily monitor and control the healing process.

After the patient's re-admission to the clinic, when we found the presence of osteomyelitis, the patient was followed and after making an intra and extraoral incision, the osteomyelitis focus was cured and good healing of the inflammatory process in the bone was obtained.

CONCLUSION

The present case shows that risk factors must be taken into account in the treatment of patients with fractures with concomitant mental illness, which may affect the healing process and lead to additional complications. In such patients, the key characteristics are the social and economic environment in which they reside.

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