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FEATURES OF METHODS OF TREATMENT OF MAXILLOFACIAL PHLEGMON IN PATIENTS WITH DIABETES MELLITUS

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Abstract

The frequent development of abscesses and phlegmon in the head and neck area is due to the high prevalence of chronic focal odontogenic, tonsillogenic infections, as well as infectious and inflammatory lesions of the skin and oral mucosa. The most common form of septic inflammation is odontogenic purulent-inflammatory diseases.

In recent decades, interest in acute infections of the face and neck has increased due to the growing number of patients with these diseases and the number of severe intracranial and extracranial complications.

Unfortunately, the problem of odontogenic infection still remains relevant. The reason for this course of the disease is considered by most authors to be a decrease in immunological reactivity, a perversion of the immune response against the background of preliminary sensitization of the body from the focus of chronic infection.

Keywords

odontogenic infection; maxillofacial purulent-inflammatory diseases; diabetes mellitus; platelet-rich plasma (PRP); tissue regeneration; odontogenic abscess; odontogenic phlegmon; maxillofacial surgery.

Topographical and anatomical features of this area play an undoubted role in the course of purulent-inflammatory diseases of the maxillofacial region: the complexity of the relationship of cellular spaces, the abundance of collaterals and anastomoses with brain vessels, the underdevelopment of venous valves and their incomplete closure determine the possibility of throwing toxins from the inflammatory focus into the brain.

The combination of odontogenic infection with diabetes mellitus forms a vicious circle in which the infection negatively affects metabolic processes, exacerbating insulin deficiency and increasing acidosis, and metabolic and microcirculation disorders worsen the course of reparative processes in the lesion.

When there is a lack of insulin in patients with diabetes, disorganization of carbohydrate metabolism occurs, manifested by hyperglycemia, glycosuria, and a decrease in the content of glycogen in tissues, primarily in the liver. Due to a disorder of liver function, water-salt and protein metabolism changes in the future. Violation of protein metabolism is manifested in a decrease in its synthesis and an increase in its decay. As a result, the formation of glucose from amino acids increases. In the body of patients, accumulation of ketone bodies and acetone occurs against the background of almost complete loss of the ability to synthesize fats, which leads to ketoacidosis. In our opinion, severe outcomes in these patients at the previous stages of treatment were due to the relationship of poorly treated purulent infection with uncompensated diabetes.

This is the basis of the "mutual burden" syndrome, which means a new form of the disease with a specific unfavorable course, which, in our opinion, requires a fundamentally new approach to treatment.

Quite often, these patients have an areactive purulent process or a sluggish, prolonged course of wound infection after the acute phenomena are removed.

A very important link in the treatment of inflammatory diseases of the maxillofacial region can be methods of local stimulation of soft tissue regeneration processes.

Platelet autoplasm is a highly active biological stimulator of regeneration processes due to various growth factors contained in platelet alpha granules, which act on all structural units of the surrounding tissues and stimulate regeneration processes.In addition, the use of autologous plasma eliminates the possibility of allergic reactions.

The technical result of the method is achieved by using a new technique, namely: venous blood is taken from the patient in a volume of 9-36 ml, depending on the volume of inflammation, then the blood is centrifuged with an acceleration equal to 1000G for 5 minutes, after centrifugation, 3.0 ml of the resulting platelet autoplasm is taken from the test tube with syringes with the luer-lock system, then syringes with platelet autoplasm are placed in a thermostat and kept to obtain a gel, while for injection into a purulent wound, the autoplasm is kept at a temperature of 85°C for 6 minutes, after which the resulting gel is cooled in a sterile tray for 2 minutes, then a syringe with the resulting gel is inserted into the infiltrate zone using a connector.

Objective: to evaluate the effectiveness of PRP therapy in patients with odontogenic inflammatory diseases of the upper respiratory tract.

Material and methods: During the period from20-22 to20-25 years, 153 patients aged 17 to 70 years with odontogenic purulent-inflammatory diseases of the maxillofacial region on the background of DM were treated in the clinic of maxillofacial Surgery of the Bukhara Regional Multidisciplinary Medical Center. There were 64 men and 89 women among them. The duration of diabetes ranged from 3 to 18 years. 70 patients were diagnosed with insulin-dependent diabetes, 83 with non-insulin-dependent diabetes. Odontogenic phlegmon was diagnosed in 93 patients, abscess-in 24 patients, odontogenic osteomyelitis-in 15 patients, odontogenic sinusitis-in 21 patients.

Results of the study and their discussion: In the general structure of patients with purulent-inflammatory diseases of the maxillofacial region on the background of DM, more than half (56.6 %) of patients had a moderate to severe course of the disease. All of these patients were over 50 years old. In most of them, the course of the underlying disease was burdened, in addition to diabetes mellitus, by two or three concomitant diseases: 60 % suffered from hypertension, 48 % from angina pectoris and atherosclerosis, and 40.5% from obesity. Most of the patientswere admitted for inpatient treatment late after the onset of purulent surgical disease. Prior to hospitalization, 95 patients took oral hypoglycemic agents, 53 people-parenteral insulin, 5 patients have no data on the treatment of diabetes in the medical history. In the BOMMC clinic, after a study of the glycemic profile and consultation with an endocrinologist, all patients underwent correction of hypoglycemic therapy. Patients who received tablet forms of the drug were prescribed parenteral insulin.

Treatment of acute purulent surgical diseases of the maxillofacial region (odontogenic abscesses and phlegmons, odontogenic and traumatic osteomyelitis, etc.) in patients with DM presents significant difficulties. The purulent process in these patients creates prerequisites for the destruction of endogenous and exogenous insulin, which leads to increased insulin insufficiency and thus to decompensation of diabetes. Patients with diabetes who have developed a purulent process, from the moment of admission to the hospital, need full-fledged intensive treatment aimed at both compensating for pathologically altered metabolic processes and eliminating the purulent focus. These measures include:: 1) correction of carbohydrate metabolism disorders; 2) administration of antibacterial drugs depending on the sensitivity of microflora; 3) detoxification therapy, correction of metabolic disorders; 4) immunocorrecting therapy; 5) use of direct-acting

anticoagulants (heparin) in preventive doses (10000-20000 units) due to severe hypercoagulation in these patients;

6) proper nutrition, including food rich in fluids, vitamins, proteins and mineral salts, with a sharp restriction of carbohydrates; 7) early active mode, breathing exercises, massage; prevention of cardiovascular complications. Since surgical trauma and anesthesia cause hyperglycemia, a sharp violation of homeostasis is possible in the postoperative period, even against the backgroundof compensated diabetes. In this regard, endocrinologists (diabetologists) should always be involved in the treatment of this group of patients. At the same time, insulin therapy, which is regularly carried out under the control of blood glucose testing, is of particular importance.

There is no doubt that the key element in the treatment of purulent-inflammatory diseases of the maxillofacial region is etiotropic antibacterial therapy. From a practical point of view, great importance is attached to the correct choice of an antibiotic. It should be remembered that patients with diabetes require a special approach. To begin with, the microbial landscape in inflammatory foci in DM patients differs from that in non-diabetic patients. In addition, diabetic nephropathy, which leads to impaired excretory function of the kidneys, requires correction of the dosage of antibacterial drugs. Do not forget that a number of antibiotics affect the level of glycemia. Therefore, even highly effective antibiotics of the latest generation are powerless against the background of hyperglycemia and other disorders. Thus, timely correction of metabolic disorders, targeted glycemic control and properly selected hypoglycemic therapy are another key element in the successful treatment of such patients. Odontogenic purulent-inflammatory processes of the maxillofacial region in patients with DM occur against the background of pronounced changes in the immune status. Moreover, the course of odontogenic purulent-inflammatory processes and the state of the immunological status are directly related to the severity and form of diabetes. In IDDM, odontogenic purulent-inflammatory processes are more severe than in IDDM. Secondary immunological insufficiency developing in DM required medical and non-medical correction of immunity.

Conclusion: Treatment of purulent wounds on the background of DM should be carried out with the participation of an endocrinologist under the control of criteria that objectively reflect the course of the wound process: cytological examinationof wound prints, morphological examination of wound tissues, determination of indicators of tissue homeostasis in the lesion, quantitative and qualitative microbiological analysis. The use of the above methods, as well as the scope and focus of the therapy performed in each specific case are the prerogative of the attending physician. Our study showed that the treatment of odontogenic infection with auto-platelet mass makes it possible to stop the purulent focus and reduce the healing time of a purulent wound due to the stimulating effect of platelet growth factors on the metabolism of bone tissue and collagen, the proliferation of vascular endothelial cells, and reduces the risk of complications.

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