

## VACCINES CONGRESS 2020: Prevention of Infection Generalization in Purulent Inflammatory Diseases of the Soft Tissues in Diabetes Patients

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The problem of treatment of purulent-inflammatory diseases of soft tissues is among the oldest sections of medicine and has a long history and with good reason it can be argued that this problem remains one of the main ones in surgery. The interest and constant attention to this problem is explained, first of all, by the fact that ideas about the course of the wound process, especially against the background of diabetes mellitus, are constantly changing along with the development of medicine, biology and technical sciences.

We tried to improve the results of treatment of patients with purulent-inflammatory diseases of soft tissues on the background of diabetes mellitus, due to the inclusion of the stimulating factor Filgrastim into the complex of therapeutic measures of granulocyte colony.

In accordance with the objectives, we conducted a study of the results of complex treatment of acute purulent-inflammatory surgical infection of soft tissues in 132 patients who were treated in our clinic. Of them: 59 (44.7%) patients constituted the main group that was treated for purulent-inflammatory diseases of soft tissues on the background of diabetes mellitus using G-CSF Filgrastim based on the therapeutic and diagnostic algorithm developed by us; 73 (55.3%) - control, which was held the traditional complex of therapeutic and diagnostic activities.

The contingent of patients in the control and main groups was comparable by sex, age, nosological forms and severity of the disease.

The use of G-CSF Filgrastim in the main group of patients led to an increase in the level of

leukocytes in the blood by an average of 1.7 times already for 3-5 days of treatment. This circumstance was due to the specific effect on the cellular element of the population of these blood cells. The proof of the positive effect of the drug G-CSF Filgrastim is the absence of young leukocyte forms on the 7th day of the treatment. The results of cytological examination of smear prints of purulent wounds showed that the microscopic picture of a smear of the control group was characterized, above all, by the presence of a microbial cell factor in combination with background elements. From the first day after the application of Filgrastim G-CSF, monocyte-macrophage cells appear in the leukocyte infiltration into the main groups, in some of them phagocytic activity is observed in the form of the presence of relatively small phagocytes of dark particles in the cytoplasm. On day 3, there was a decrease in the activity of the processes of alteration and exudation of inflammation. In histiocytic cells, dystrophic and degenerative changes are less pronounced, hypertrophy and hyperchromasia have been observed in the nuclei. The volume ratio of nuclei and cytoplasm changed dramatically in favor of nuclear structures and the nuclear-cytoplasmic ratio increased from the first days of treatment in the main group and amounted to  $0.125 \pm 0.013$ , which approached the normal values.

Cytological studies revealed a predominance of regenerative processes over destructive and inflammatory processes already in the early stages of treatment with the use of G-CSF Filgrastim. An increase in the phagocytic activity of blood neutrophils contributed to the early relief of a

purulent-inflammatory process in the wound, which in turn contributed to the improvement of the results of treatment of patients with purulent-inflammatory diseases of the soft tissues on the background of diabetes mellitus. Studies have shown that after performing a primary surgical treatment of a purulent focus, on the 3rd day of the treatment, in the main group of patients, the incidence of inflammatory type cytogram change was 2.5% more, and degenerative - 40.4% less than in control. The prevailing type of change in tissue structures in the control group of patients even on the 7th day of the treatment was inflammatory. The use of the diagnostic and treatment algorithm developed by us, which includes Filgrastim G-CSF, has led to a decrease in the number of patients with septic complications of purulent-inflammatory diseases of the soft tissues on the background of diabetes mellitus by 35.8 times already compared to the early study dates and 18.3 times compared with the control group of patients in this study period. The effectiveness of the drug G-CSF Filgrastim is also proved by the fact that among the patients of the main group on the 7th day of treatment there were no cases with a septic course of purulent-inflammatory diseases of the soft tissues on the background of diabetes mellitus.

Conclusion: it should be noted that the proportion of positive results of treatment in the main group of patients with purulent-inflammatory diseases of soft tissues on the background of diabetes mellitus was 1.1 times higher than in the control group. At the same time, excellent results were higher by 6.2%, good - by 1.7%, and satisfactory - by 3.4%. The effectiveness of the use of the drug G-CSF Filgrastim is also proved by the fact that its use in the main group of patients made it possible to reduce the incidence of deaths by 1.9 times.