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FEATURES OF PREDICTING THE EFFECTIVENESS OF TREATMENT OF SOFT TISSUE SARCOMAS IN ADULTS BASED ON THEIR CLINICAL PICTURE AND IMMUNOLOGICAL MICROARMAMENT.

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Abstract:
Today there is an active increase in patients with soft tissue sarcoma. So, for example, in the Russian Federation, about 10 thousand new patients are registered annually, the incidence is 30 cases per 1 million population. The age range of incidence of soft tissue sarcoma averages 56-65 years with a peak at the age of 80-90 years. To date, it is known that the immunological microenvironment of malignant tumors varies with different localization, histological characteristics, stage, degree of differentiation, tumor ploidy [1, 2] and other factors that determine the prognosis of the disease, which makes it possible to consider the features of the tissue subpopulation composition of lymphocytes in a prognostic aspect.

Keywords: soft tissue sarcoma, prognostic factors, survival, local immunity, lymphocyte subpopulations.

PURPOSE: To study the possibility of using the assessment of factors of local cellular immunity to redict the effectiveness of the treatment of soft tissue sarcomas.

INTRODUCTION:
Soft tissue sarcomas (STS) are rare malignant tumors of mesenchymal origin, accounting for about 1% of all human malignant neoplasms [1]. The study and treatment of this pathological group today is indeed an urgent problem. Thus, the number of publications in the PubMed library for the query "Soft tissue sarcoma" at the end of 2017 is about 15000 [2], and the number of initiated clinical trials registered in the ClinicalTrials.gov database is 1540 (clinical trials of phases 1-3) [3]. In Russia, about 10,000 new cases of STS are registered annually, which is 1% of all malignant neoplasms [4]. The incidence is 30 cases per 1,000,000 population [4]. In childhood, the frequency is higher and amounts to 6.5%, ranking 5th in terms of morbidity and mortality [4]. In the United States, an increase in this type of disease is noted annually, and about 11,000 new cases were registered in 2015 [5], in France - about 4,000 new cases [6]. The age range of incidence of STS is 56–65 years on average, with a peak at the age of 80–90 years [7]. It is known that some tumors tend to develop at a certain age, for example, liposarcoma in adults and rhabdomyosarcoma in children [8, 9]. The localization of the primary focus of STS can be any part of the body, however, the dominant position is occupied by the lower limb - up to 60% of cases located in the thigh [10, 11]. In addition, some types of sarcomas are located at certain anatomical points: liposarcoma is

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more common in the lower limbs, while synovial sarcoma, epithelioid sarcoma, fibrosarcoma are more common in the upper limb [12]. According to the latest WHO data, there are more than 100 histological types of soft tissue sarcomas [13]. These types have differences in the molecular component, in clinical manifestation and response to treatment [14, 15]. The most common histological types include undifferentiated sarcomas, liposarcomas, leiosarcomas, synovial sarcomas, and malignant peripheral nerve sheath tumors [16-18]. As is known, undifferentiated tumors demonstrate more aggressive clinical behavior and a higher risk of mortality due to a high degree of metastasis (mainly to the lungs) [19]. The etiology of most STS remains unknown, but there are certain environmental and genetic factors that have been shown to be associated with the development of some types of STS, including neurofibromatosis [20] and Li-Fraumeni syndrome [21]. Initial signs and symptoms of STS may vary depending on tumor location, histology, and grade. When planning the treatment of STS, it is necessary to evaluate the diagnostic criteria of 3 main factors: the degree of local spread of the tumor, the histological type, and the presence of metastases. Each of these points plays an important role in the treatment of a particular patient [22, 23]. SMTs tend to grow along tissue planes with compression of local surrounding tissues without violating anatomical barriers (fascia, bones) [24]. Tumor ingrowth into bone tissue is extremely rare [25]. As imaging methods, preference is given to MRI, as the "gold standard" in determining the local spread of the tumor and tissue swelling [26, 27]. MRI technology allows reconstruction of a 3D model based on cross-sectional images and provides relevant anatomical information related to the tumor and its proximity to neurovascular structures and bone [28]. This information is important when planning surgical treatment [29]. The addition of gadolinium contrast may aid in the differentiation of cystic areas based on peripheral rim elevation and solid viable tumor areas [30]. Different types of STS may differ in their clinical behavior and response to treatment. Determination of histological type is one of the strongest predictors of metastatic risk and survival rate [31, 32]. A biopsy should be performed before starting complex treatment. Currently, two types of biopsies are widely used: needle (fine needle aspiration - FNA) and open biopsy [33]. I would also like to dwell separately on the distinctive ability of SMT to early metastasis. The predominant route of metastasis is hematogenous, it occurs in 70% of cases. The penetration of tumor cells into the bloodstream is facilitated by aggressive tumor growth at the final stages of tumor development. The target organ for STS metastases in 80% of cases are the lungs, which is explained by the high molecular cellular affinity of soft tissue neoplasms and lung tissue. There are other localizations of metastasis: distant soft tissues, bone and periosteum, parenchymal organs, and the brain. In such cases, modern diagnostic devices play a decisive role. Fast, accurate, detailed diagnosis of SMT at the prehospital stage, followed by immediate referral of the patient to a specialized institution, is a prerequisite for successful treatment and a favorable prognosis. Indeed, in the modern system of the World Health Organization there is a slogan: "Early detection of cancer will save hundreds of lives!"

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