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The modern tactics treatment of soft tissue sarcomas

Abstract. The purpose of the research is to analyze the results of surgical treatment of soft tissue sarcomas. Material and methods. In the center of tumors of bones and soft tissues of the Kazakh Research Institute of Oncology and Radiology were operated on during the period 2001-2013 250 patients with soft tissue sarcomas.

Results.Among 250 cases of operated patients with soft tissue sarcomas in 6 cases there were local recurrences, as some intraoperative surgical margins were less than 2 cm, because of the prevalence of cancer. In the other cases, during chemotherapy, postoperative zone is without signs of recurrence.

Thus, patients with soft tissue sarcoma require surgical treatment in its various embodiments.

In cases of widespread processes with skin lesions, radical operation with different plastic surgery of defect by removed flaps of skin is recommended.

Keywords: soft tissue sarcoma, types of surgery, variants of plastic surgery defects.

Relevance

Soft tissue sarcomas do not have the pathognomonic symptoms. Their clinical manifestations may occur in benign tumors, and non-neoplastic processes. This is a fairly frequent cause of mistakes in the diagnosis and respectively, in treatment of tumors of soft tissues. This strategy leads except loss of time, similarly to the progression of the disease, due to inadequate treatment and stimulation of cell growth. Often these patients, especially in the early stages of the disease, get mista kenly variousthermal and physical therapy that contributes the spread of the tumor.According to the information of statistical data on malignancies in Kazakhstan [2], from 2005 to 2013. soft tissue sarcomas were found in 3449 cases and amounts 1.3% of all malignant tumors (Table 1).

Table 1 - Quantity of soft tissue sarcomas cases among of the population of
RK by years

Years	2005	2006	2007	2008	2009	2010	2011	2012	2013
Quantity of patients	298	345	345	304	321	347	347	401	410

In the United States about 5,700 cases of CMTare diagnosed each year, of which 4200 end with death of patients.

All soft tissue sarcomas have common characteristics [1]:

They do not have a true capsule, but due to the long pressure of tumor on the surrounding structures form apseudocapsule.

The tumor cells are able to spread far beyond the visible and palpable tumors (in the direction of the muscle fibers, fascial plates, vessels, nervesshell and perineural slits), which leads to relapses and 'secondary' metastasis after the so-called "economical removal of the tumor."

Table 2 Morbidity mortality and survival of patients with soft tissue sarcomas by years

	2007	2008	2009	2010	2011	2012	2013	2014
Morbidity	2	2,6	2,2	2,1	2	2,4	2,4	2,6
Mortality	1,1	1	1,3	1,2	1	1,1	1,2	1,1
1 year mortality	27,3	27,4	27,4	29,2	30,3	28	28,1	
5 year survival	49,9	51,7	52,2	53,3	54,4	52,5	53,5	

Soft tissue sarcomas may have multiple sources, which is the reason of underestimation of the prevalence of the process and inadequate volume of surgical intervention.

Soft tissue sarcomas are characterized by the predominant tendency ofhematogenous metastasis (80% - in the lungs), and lessoften bylymphogenous (3-20%). Leading clinical symptom is the presence of tumor, and it may be the first and the only symptom among 2/3 of the patients. The tumor may be invisible for a long time, especially when the localization is deep in muscle mass (thigh, glutes areas). In such cases, the first symptoms may be varying degrees intensity of pain and swelling of limbs,which depends on the relationship of tumor with the surrounding vessels and nerves.

There are many types of soft tissue sarcomas, each of which develops differently. The most common types are: Fi brosarcoma, miksofibrosarkoma, desmoid tumor, liposarco ma, synovial sarcoma, rhabdomyosarcoma, leiomyosarcom a, malignant tumor of the peripheral nervous systemtissue, angiosarcoma.

The growth rate of the tumor may be different. In some cases it may be a long period of growth of tumors without significant troubles for the patient. In othersthere is rapid tumor growth, accompanied by pain, impaired function of the limb, symptoms of intoxication. Sometimes growth rate changes mostly in the direction of its increasing. The consistency of the tumor can be of solid or soft structure, moderately painful. Area and texture of tumor may be different. The consistency of soft tissue sarcomas varies from stony-cartilaginous until soft and supple, sometimes uneven. Such changes of the skin over the tumor, as purple-cyanotic coloration, infiltration, increasing of local temperature, the expansion of of saphenous veins, ulceration of the skin, bleeding of tumorsurface are relatively late symptoms which are features of rapidly progressing tumors. Germination of skin tumor occurs more frequently when the surface of its location is close to the skin when there are reapses.

With in creasing of tumor size its spread in it vessels, nerve trunks, joint capsules, bones, which in general is central to the cause of the certain clinical picture? Is observed. Germination of neural structures leads to the development of the sustainable intense pain, the treatment of which requires the appointment of strong analgesics, and sometimes drugs. Pain disturbs mostly at night, and is amplified by physical effort.

Tumors that spread on blood vessels manifest thrombophlebitis, lymphostasis and increased limb. In the case of the arteries compression weakening of pulsation on peripheral vessels, but a gradual compression mechanism on the blood vessels appears causes the development of collateral vessels, which eliminates acute impairment of blood supply to the tissues. Upon germination of the upper layer of the periosteum and bone pains appear. When involving the joint function is disturbed and arthralgia develops.

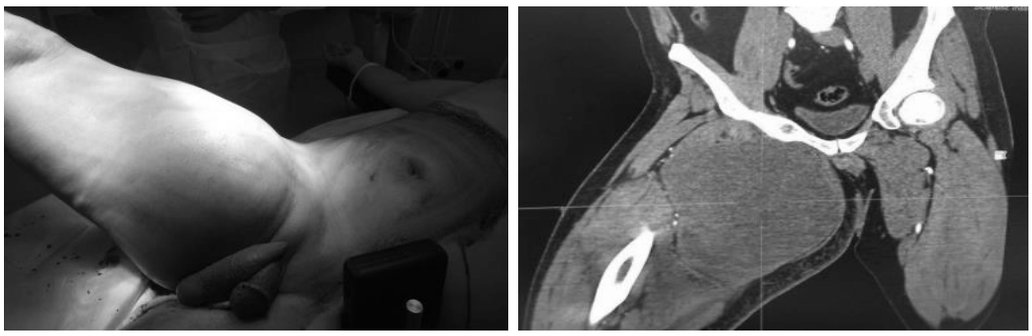

Figure 1- soft tissue tumors on the right upper thigh a - visual appearance, b-CT picture

However, you should alert the painless tumor, its soft consistency, clarity minor contours, mobility, "lack of interest" of the skin. Even very soft subcutaneous tumor, which is regarded as a lipoma, can be a sarcoma. Therefore, any soft-tissue tumor should be regarded as a potential sarcoma.

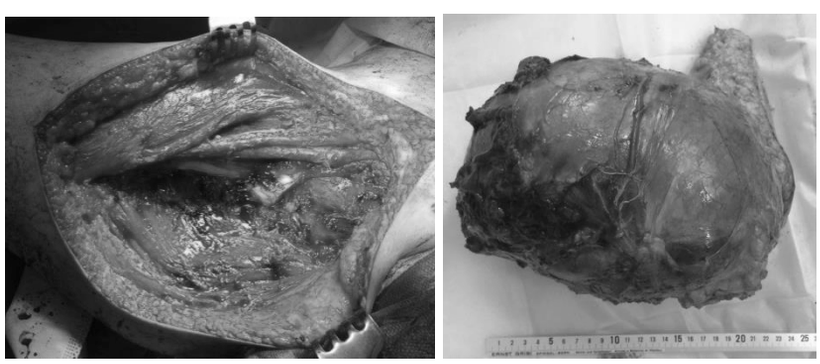

Figure 2 a- Intraoperative tumor bed; b- slides

Most of soft tissue sarcomas has a tendency to local recurrence of the process, patients mainly die from distant metastases occurring from a period of several weeks to several years from the occurrence of the primary tumor. Most soft tissue sarcomas has the ability of frequent recurrence after radical surgery. This provision indicates multicentric tumor growth and its recurrence. Metastasis occurs mostly byhematogenous route. Lymphatic metastasis to regional and distant lymph nodes ismuch less common (5% to 12-15%). In this case, a biopsy is required before the scheduled treatment [8,9]. Through the seeming simplicity of the tumor, serious diagnostic errors are often made. Quite often such erroneous diagnoses as cyst, sebaceous cyst, lipoma, hygroma, "cold abscess", hematoma, arthritis, bursitis, etc. are establishedwhilein reality there soft tissue sarcomas.

The purpose of research - to analyze the results of surgical treatment of soft tissue sarcomas. Materials and methods. In the center of the tumor of bones, soft tissues and melanomas of the Kazakh Research Institute of Oncology and Radiology 250 patients with soft tissue sarcomas were operated on during 2011-2013. Pre-held computer-tomographic study of the zone of interest with the definition of the location and the depth of the tumor, the selection of the optimal access for biopsy were done. Then under strict aseptic technique one was anesthetized, with the following biopsy. For bone biopsy different: needs were usrdshort ruffled needles (8-11G), length of the system with a trocar needle Bonopti.

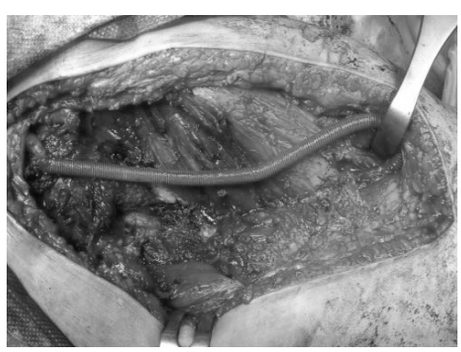

Figure 3 - vascular prostheses

After histological verification of patients surgical treatment was planned.

At a meeting of MDG tactics of surgical treatment by local clinical examination as well as x-ray study wascarefully worked.

During the operations patients with soft tissue sarcomas hadtumors removed within healthy tissues. If the tumor is located on the extremities or a trunk, it is removed with a 2-3 cm of healthy tissue.

When there is tumor invasion of great vessels, to perform N-bloc resection, we needed additional prosthesis for resected portion of the vessel.

Figure 4 a - exophytic tumor; b - defect after tumor removal; -view after plastics

When there wasexophytic tumor growth with the collapse, besides the complete resection of the tumor additional plastic of defects by displaced flaps of skinwas performed.

Previously, 50% of patient with soft tissue sarcoma of the upper and lower limbs had amputation performed (removal of a part or all of a limb).

At the moment the amputation of limbs was performed only in 12 (5%) patients.

In the other 238 (95%) cases surgery with preservation of limbs in combination with chemotherapy wasperformed.

Results. Thus, the conditions for the radical removal of soft tissue tumors depend on the size of the tumor and surrounding tissue intact.

In 6 cases among the 250 ones operated patients with soft tissue sarcomas had local recurrence as some intraoperative surgical margins were smaller than 2 cm.

In the other cases with chemotherapy treatment, postoperative area is with no signs of recurrence.

Conclusions:

Patients with soft tissue sarcoma need surgical treatment in its various embodiments.

When the reare widespread processes with invasion of the skin, a radical operation with various plastics of defect with removed flaps of skin is needed.

When there is tumor invasion of great vessels,together with a radical removal of the tumor prosthesis of the main artery of the affected area is needed additionally.

Conservative therapy has narrow indications and may be useful in the treatment of patients with widespread processes, as well as with distant metastases.

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Тұжырым

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Қазақ онкология және радиология ғылыми-зерттеу институты

Жұмсақ тіндер саркомасының қазіргі таңдағы емдеу әдістері

Жұмсақтіндік саркомалардың патогномикалық симптомдары жоқ. Оның клиникалық көрністері қатерсіз ісіктер кезінде, сондай-ақ ісіктік емес үрдістер кезінде де байқалуы мүмкін. Осы себеп жұмсақ тіндердің қатерлі ісіктерінің диагностикасында жиі қателіктердің туындауына алып келеді, осыған сәйкес емінде де. Сәйкес емес ем жүргізу уақытты жоғалтумен бірге, үрдістің асқынуына алып келеді және жасушалардың өсуін ынталандырады.

Қазақстандағы қатерлі ісіктердің статистикалық мәліметтеріне сәйкес, 2014ж. жұмсақ тіндердің саркомасы 410 жағдайда кездескен, ол барлық қатерлі ісіктердің 1,3% құрайды. АҚШ жыл сайын 5700 жұмсақ тіндер саркомасы анықталады, оның 4200 өліммен аяқталады.

Онкология және радиология ҚазҒЗИ сүйек және жұмсақ тіндер ісіктері орталығында 2011-2013 жылдар аралығында 250 ота жұмсақ тіндер саркомаларына жасалынды.

Жұмсақ тіндер саркомасы бар науқастарға әртүрлі нұсқадағы оталар көрсетілген.

Түйінді сөздер: жұмсақ тіндер саркомалар, статистика, түбегейлі оталар, ақаудың пластикасы.

Резюме

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Казахский НИИ онкологии и радиологии

Современная тактика лечения сарком мягких ткани

Цель исследования – проанализировать результаты хирургического лечения сарком мягких ткани.

Материал и методы. В Центре опухолей костей и мягких тканей Казахского НИИ онкологии и радиологии 2011-2013 гг было прооперировано 250 больных саркомами мягких тканей.

Результаты. Из 250 случаев прооперированных больных с саркомами мягких тканей в 6 случаев имелся местный рецидив, так как интраоперационно некоторых края резекции были менее 2 см. из-за распространённости опухолевого процесса. В остальных случаях на фоне химиотерапии послеоперационная зона без признаков рецидива.

Таким образом, пациентам с саркомой мягких тканей показано хирургическое лечения в различных его вариантах.

При распространённых процессах с прорастанием кожи, показана радикальная операция с различными пластиками дефекта перемешенными лоскутами кожи.

Ключевые слова: саркома мягких ткани, виды хирургических вмешательств, варианты пластики дефектов.