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PRIMARY LEIOMYOSARCOMA OF THE BREAST IN A MALE PATIENT – A CASE REPORT

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Summary

A 43-year-old male patient was admitted to our hospital for the treatment of palpable tumor localized retromammilary in the left breast. At the admittance, the patient reported the painful bump followed by its fast growing nature. The clinical finding was preoperatively confirmed by radiologic, ultrasound and citology examinations, however, the potential biologic process (malignant/benign) was not thus verified. Considering the undefined diagnostic nature of the process, biopsy, pathohistology and immunoanalysis were performed to indicate leiomyosarcoma of the breast. The radical breast excision *in toto* (mastectomy) was indicated and performed and then supplemented by locoregional radiotherapy. Leiomyosarcoma of the breast is a very rare primary malignant breast tumor, especially in male patients, with only 14 cases reported in the literature. Considering the rare occurrence of leiomyosarcoma of the male breast, approaches we used in radical surgery are similar to those used in other malignant breast tumors and leiomyosarcoma of other localizations.

KEY WORDS: *leiomyosarcoma, male breast*

PRIMARNI LEIOMIOSARKOM DOJKE U BOLESNIKA MUŠKOG SPOLA – PRIKAZ SLUČAJA

Sažetak

Četrdesettrogodišnji bolesnik je primljen u našu ustanovu radi lječenja palpabilnog tumora smještenog retromamilarno u lijevoj dojci. Pri primitku bolesnik se žalio na bolnu kvržicu koja je brzo rasla. Klinički je nalaz prije operacije potvrđen radiološkom, ultrazvučnom i citološkom pretragom, ali potencijalni biološki proces (maligno/benigno) nije verificiran. S obzirom da je bilo potrebno odrediti prirodu procesa, obavljena je biopsija te pathistološka i imunološka analiza koje su pokazale da je riječ o leiomiosarkomu dojke. Indicirana je radikalna ekscizija dojke *in toto* (mastektomija) koja je i učinjena te potom nadopunjena lokoregionalnom radioterapijom. Leiomiosarkom dojke je vrlo rijedak primarni zloćudni tumor dojke, osobito u muškaraca, a u literaturi je opisano samo 14 slučajeva. S obzirom da se leiomiosarkom rijetko pojavljuje u muškoj dojci, u radikalnom smo operacijskom zahvatu primijenili metode koje se primjenuju kod ostalih malignih tumora dojke i leiomiosarkoma drugih lokalizacija.

KLJUČNE RIJEČI: *leiomiosarkom, muška dojka*

INTRODUCTION

Primary malignant soft tissue tumors of the breast are very rare. The most frequent soft tissue breast tumors, the tumors which are common to all the organs in their malignant variable, are malignant myoepithelioma, liposarcoma, sarcomatoid carcinoma and leiomyosarcoma.

Leiomyosarcoma is extremely rare as a primary malignant tumor of the breast, with only few cases reported in the literature, and therefore requires additional description. Moreover, we could not find any reports of primary leiomyosarcoma of the breast in male patients in the literature.

The oncological treatment of malignant soft tissue tumors of the breast, or male breast leiomyosarcoma in this case, starts with a radical surgical excision of the breast, mastectomy, followed with radiotherapy. Since malignant soft tissue tumors metastasize hematogenously, no evacuation of the regional lymph nodes is required. Radical surgery followed by radiotherapy should be sufficient for local control of the disease.

With no references to such a case found in the literature, this case report points out the problem that may be encountered by diagnostic and surgical teams in oncology.

CASE REPORT

In May 2005, a 43-year-old male patient was admitted as inpatient to our hospital for the treatment of palpable tumor localized retromammillary in the left breast. At the admittance, the patient reported a painful bump followed by fast growing nature. The clinical finding was preoperatively confirmed by radiologic, ultrasound and cytology examinations, however, the potential biologic process (malignant/benign) was not thus verified. Ultrasound and mammography confirmed the clinical finding of the tumor of 21 mm in size. A more precise determination could

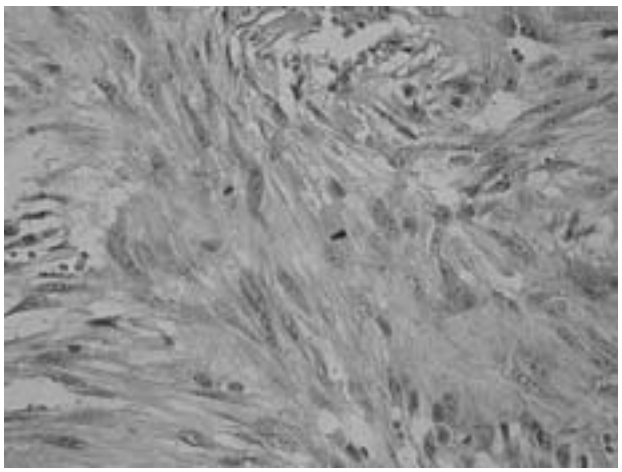

Figure 1. Leiomyiosarcoma of the breast; Hematoxylin-eosin (400X)

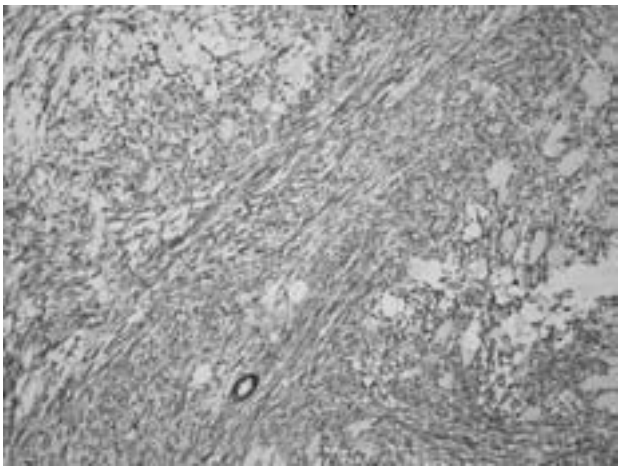

Figure 2. Immunohistochemical analysis positive to smooth-muscle actin (100X)

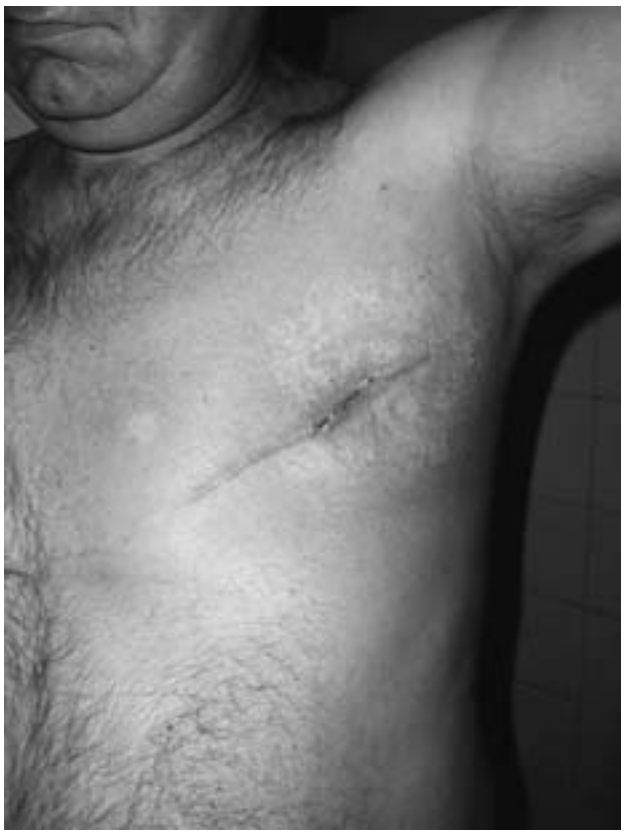

Figure 3. Six months later the patient was in good condition with no signs of the disease

not be made by cytology which showed atypical cells (the smear shows numerous clusters of glandular epithelial cells with scattered nuclear atypia, naked nuclei and erythrocytes). Tumor marker Ca 15-3 was within the range of normal. Considering the undefined diagnostic nature of the tumor, biopsy, pathohistology and immunoanalysis were performed to indicate primary leiomyosarcoma of the breast. Patohistological findings: macroscopically, there was a 20x15 mm, sharply delineated, fleshy, grayish-rosy node partly permeated by blood. Microscopy showed relatively well-delineated tumor tissue composed of interlaced bundles of atypical spindle cells of pronounced polymorphism and with numerous mytoses (Fig. 1). Immunohistochemical analysis revealed the tumor cells positive to smooth-muscle actin (Fig. 2). After establishing the final diagnosis, we indicated and performed radical mastectomy. The examined material showed excision margins to be at least 2.5 cm removed from the tumor border. We are of the opinion that radical mastectomy in male patients with this disease is the treatment of choice, and may not be regarded as an overtreatment which might be a case in female patients with the same disease. Because of the tumor nature, we did not perform the axillary dissection. The oncological team also indicated the surgery should be supplemented by locoregional radiotherapy.

Six months later, the patient was completely assessed (ultrasound, x-ray, blood tests) and was in good condition with no signs of the disease (Fig. 3).

DISCUSSION

We reported the case of a male patient with leiomyosarcoma of the breast, an extremely rare malignant breast tumor with no unanimous consensus on the treatment approach. The aim of its surgical and radiotherapeutic management is to achieve a high degree of local control of the disease. The major problem occurs with finding an optimal surgical approach to leiomyosarcoma of the breast, a quite uncommon site for such tumor.

Leiomyosarcoma is an extremely rare form of primary malignant tumor of the breast, with only 14 cases reported previously (1-7). The tumor is composed of whirling bundles of smooth-muscle cells and fibers with potentially hyperchromatic nuclei and pronounced anisonucleaosis, and a variable, larger or smaller, number of visible mytoses (8).

The majority of rare malignant breast tumors do not clinically differ from common ductal or lobular invasive carcinomas. The clinical picture is dominated by their fast growth, in only a few weeks reaching 20, 30 cm in diameter, and even more. Despite their size, in the majority of cases the lymph nodes are not enlarged for the very reason that these tumors usually metastasize via hernatogenous spread. The literature review summarizing knowledge and experience in the management of breast tumors of common pathohistological parameters, and rare forms of breast tumors of common localization, leads to a conclusion that local control is the most important element of rare tumor treatment strategy for their tendency to local recurrence (9-11).

Local control can be achieved by radical surgery (breast ablation without axillary evacuation), although this malignant type does not belong to soft tissue sarcomas which metastasize to the regional lymph nodes. An alternative approach to obtaining local control of the disease (for tumors lesser than 3 cm) would be tumorectomy (which could not be indicated in male patients), with the excision margin larger than 2 cm in relation to the macroscopic tumor border, and in case the excision margin is less than 2 cm related to the macroscopic tumor border, the surgery is supplemented by radiotherapy (usually applying 60 GY) (12).

The majority of rare breast tumors have a more favorable prognosis compared to common breast cancers (13).

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