Article ID: WMC00553 2046-1690

Primary Chondrosarcoma Of The Breast: A Case Report

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Article ID: WMC00553

Article Type: Case Report

Submitted on:07-Sep-2010, 08:00:04 PM GMT **Published on:** 07-Sep-2010, 08:19:54 PM GMT

Article URL: http://www.webmedcentral.com/article_view/553

Subject Categories:BREAST

Keywords: Chondrosarcoma, Breast, Sarcoma.

How to cite the article: Alaoui Slimani K , Allam W , Ichou M , Kettani F , Errihani H . Primary Chondrosarcoma Of The Breast: A Case Report . WebmedCentral BREAST 2010;1(9):WMC00553

Competing Interests:

The authors declare that they have no competing interests.

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Abstract

Sarcomas of the breast are relatively rare and account for 1% of all primary malignant tumors of the breast. We present a case of a pure chondrosarcoma of the breast in a fifty-four-year-old man. Histological characteristics were similar to those described in other localizations. The prognosis is likely to be the same as in other chondrosarcomas.

Introduction

Pure and primary chondrosarcoma is one of the rare types of sarcomas of the breast. Differential diagnosis involves cystosarcoma phyllodes and breast metaplastic carcinoma with chondroid differentiation.

Case Report(s)

A 54 year-old man presented in the medical oncology department of national institute of oncology with a painful mass in the right breast that increased in size over a period of eight months [figure 1].

The patient gave no medical history, and there was no family history of breast cancer. There was no history of exposure to radiation. Physical examination revealed a palpable mass occupying most of the right breast, measuring 24 x 26 cm in size, fixed to deeper structures and not involving the overlying skin. A single 3x2 cm firm, mobile ipsilateral axillary lymph node was also clinically present. Contralateral breast and axilla were normal on clinical examination.

Computed tomography scan of the chest showed a voluminous process in the right breast with area of necrosis, developed on endothoracic and arriving until the mediastinal organs which are respected [figure 2].

A biopsy was performed and primary chondrosarcoma was diagnosed by histological examination [figure 3].

Microscopically, the tumor was seen with multiple chondroblasts in single lacunae. The chondroblasts were frequently multinucleated with plump nuclei. Cells were provided with hyperchromatic nuclei with discreet anisocaryose. Mitoses were rare. Some binucleated cells were present. We also observed a hyalin connective tissue by place.

The overlying skin and areola were free of tumor.

The tumor cells were negative for hormone receptors.

It contains chondrosarcomatous areas throughout the tumor and arises from the breast itself rather than from underlying bone or cartilage.

Immunohistochemical study performed by standard revealed that chondrosarcomatous elements were positive for S-100 and vimentin, but negative for cytokeratins AE1/3, CK7, and also for estrogen and progesterone receptors.

A final diagnosis of chondrosarcoma of the breast was made.

Therapeutic strategy consisted of neoadjuvant chemotherapy then a surgery. The patient received chemotherapy based on ifosfamide (1,6g / m2) during five days and adriamycine (60mg / m2) on day one. The evaluation after three cycles showed progression with development of lung metastasis. He died after respiratory failure.

Discussion

Primary breast sarcomas are a highly heterogenous group of tumors. Majority of these are malignant fibrous histiocytoma, fibrosarcoma, liposarcoma, and less commonly angiosarcoma, rhabdomyosarcoma, dermatofibrosarcoma, desmoid tumors etc. Previous radiotherapy to the breast increases the risk of angiosarcoma of the breast.

As a primary breast tumor, chondrosarcoma may occur in three different forms: as a pure neoplasm (pure chondrosarcoma), as the stromal component of a histologically malignant phyllodes tumor, or as chondrosarcomatous differentiation in a metaplastic carcinoma. In this report we document a case of histologically pure chondrosarcoma.

The primary chondrosarcoma of the breast is an extremely rare entity. It contains chondrosarcomatoid sectors which result from some mammary tissue.

Only five cases of pure chondrosarcoma have been reported: Kennedy and Biggart reported the first case in 1967, Beltaos and Banerjee reported two cases in 1978, and Thilagavathi brought back the fourth case in 1992. The last case was reported by Guymar and the others in 2001. [1-2]

Prognosis of chondrosarcomatous breast tumors is not fully known, because many of the reported cases are

difficult to analyze owing to lack of detailed clinical or morphologic information.

These tumors are usually large-sized and occur in more than 40 year old woman.

Axillary lymph nodes are found in 14-29 % of the cases, most of which are reactive hyperplasia. The present case substantiates the clinical findings of previously reported cases. [3]

To diagnose a primary chondrosarcoma of the breast, a non-mammary site has to be excluded clinically and histologically.

Differentiation from metaplastic carcinoma is possible by absence of direct transition between carcinomatous and mesenchymal component in the former. Further the sarcoma like elements in metaplastic carcinoma though acquire vimentin positivity, still retain epithelial markers. [4]

Differentiation from malignant cystosarcoma phyllodes with predominant chondrosarcomatoid component can be extremely difficult. Most mammary tumors with areas of chondroid metaplasia show benign histological appearance. Cystosarcoma phyllodes displaying a chondrosarcomatous element are very rare.

The majority of information that guides management consists of retrospective chart reviews, anecdotal experience, and case reports.

The surgery remains the treatment of choice for the most part of sarcomatoides tumors. [5]

Regarding systemic management, there is no standard treatment protocol, and a large variety of chemotherapy protocols have been employed in treating this disease.

Systemic therapy principles have been derived from small retrospective case reviews of primary breast chondrosarcomas and extrapolated from studies of non-breast chondrosarcomas, since the clinical behaviour and histology are similar.

The tumor was negative for any of the hormonal receptors. This supports the theory that adjuvant therapy with estrogen antagonists and other hormone manipulations have no role in treatment of mammary sarcomas.

The adjuvant treatment can decrease the rates of local and systematic recurrences, but the results are not significant because of the rarity of this pathological entity and the small number of cases reported, which makes the evaluation of the role of the chemotherapy and the radiotherapy in the primary breast chondrosarcoma more difficult. [6]

Conclusion

It seems to be very important to identify the mammary primary sarcomas as entity separated from the carcinomas of the breast.

The primitive chondrosarcoma remains a rare pathology, among which the therapeutic modalities and the forecast are credibly identical to those of the sarcomas of the same type arising in the other localizations.

Acknowledgement(s)

Consent: The authors obtained written, informed consent from the patient for open access publication of this case report.

Authors contribution(s)

KAS has participated in all care of the patient and has draft the manuscript. All authors have made contributions by making diagnosis and intellectual input in the case and have read the manuscript.

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Illustrations

Illustration 1

aspect of the breast before chemotherapy

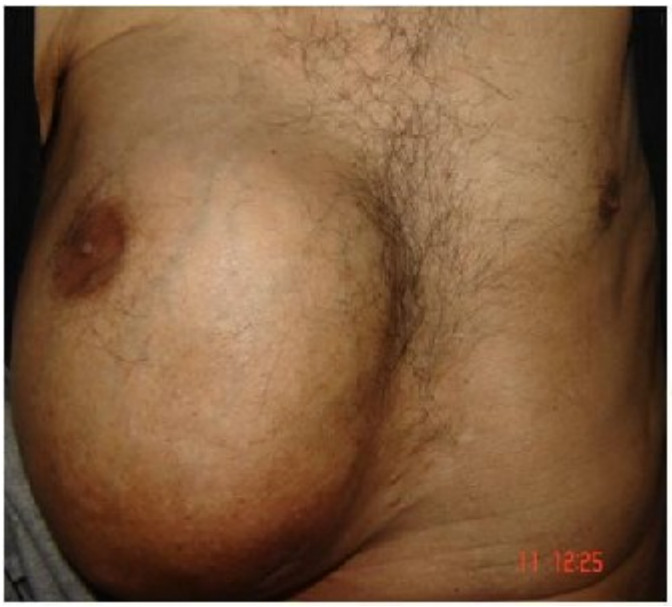


Illustration 2

Computed tomography scan of the chest showing a voluminous process in the right breast

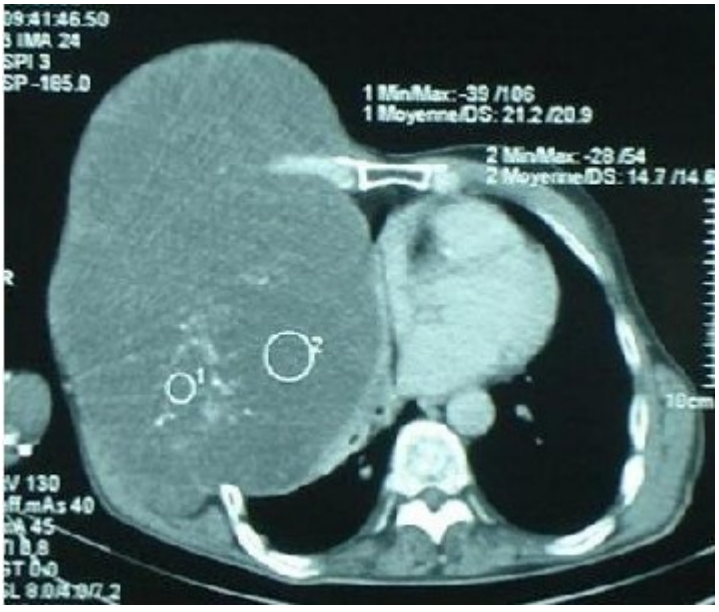
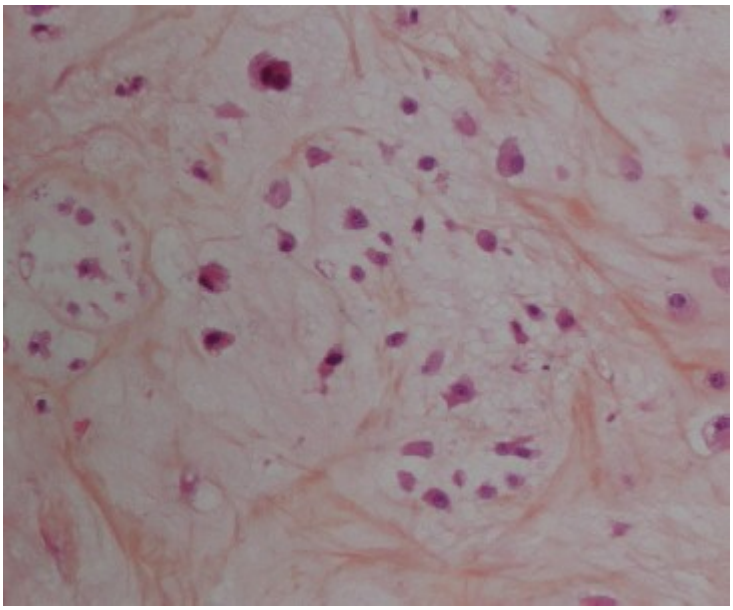


Illustration 3

The tumor cells showed hyperchromatic nuclei with discreet anisocaryose. Some binucleated cells are



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