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Tumors of the Armpit: Diagnostic, Therapeutic and Prognostic Aspects in an African Cancer Institute

Sidy KA*, Doudou Diouf, Adja Coumba Diallo, Ibrahima Thiam, Mamadou Moustapha Dieng, Doh Kwame, Pape Macoumba Gaye and Ahmadou Dem

Department of Oncology, Dakar University, Senegal

Abstract

Objective: To report cases of armpit tumors in a retrospective study from 2010, January to 2015, December, to determine their diagnostic, therapeutic and prognosis aspect at Joliot Curie Cancer Center in Dakar.

Results: It was about 8 cases of axillary tumors with a sex ratio of 1 and a mean age of 48 years. The consultation delay was of 2 years. Histology showed 1 high-grade nerve tumor, 1malignant schwannoma, 1 undifferentiated sarcoma, 1 Non-Hodgkin Lymphoma in a man and 2 carcinomas with unknown primary. In 2 patients, we found 2 infiltrating ductal carcinomas of axillary breast. Surgical treatment consisted of 3 surgical resections, 2 disarticulations of the shoulder. Follow-up was marked by 1 lymphedema after resection in 1 patient and a survival rate of 25% after 16 months of follow up.

Conclusion: Axillary tumors are rare. Histological types are various. Surgery is the main treatment. Prognosis is improved by chemotherapy and radiation therapy for relative lesions.

Keywords: Axilla; Tumors; Surgery; Prognosis

Introduction

Tumors of the armpit are benign or malignant neoplasms developed at the expense of the structures contained in the axilla. The armpit is the crossing of the major vessels and nerves of the upper limb. It can be the location of primary well known malignancies like nodal lymphomas. It is more often the location of secondary malignancies like nodal involvement of breast cancers. It is less likely to be the primary sites of mesenchymal or epithelial other primary malignant tumors. Their diagnosis is usually at an advanced stage because of the tight contact of the different elements of the axilla. Relatively to the conservation of the member and the risk of vascular and nerve damage, the challenge is most prognosis than diagnosis [1]. The objective of this study was to report the diagnostic, therapeutic and prognostic aspects of axillary tumors in Dakar Cancer Institute.

Patients and Methods

From 2010, January to 2015, December, we conducted a retrospective descriptive study. All patients with axillary tumor regardless of the pathologic type were considered except in cases of non-malignant axillary supernumerary breasts and lymph node involvement of distant malignancies. Patients were all diagnosed by clinical exam, CT of the shoulder, biopsies for histology before resection, thoracic and abdominal CT for extension of the disease. They underwent surgery when needed and only medical treatment for others. Results of surgery, recurrence and death were evaluated.

Results

We found 8 cases with a sex ratio of 1. The mean age was 48 years with extremes of 27 and 83 years. The average time of consultation was 2 years. The mean size of tumors was 13 cm. Mass was ulcerated in 4 cases and budding in 1 case (Figure 1). We noted 2 cases of family type 1 neurofibromatosis.

Histology showed in 6 cases, 1 high-grade nerve tumor, 1 malignant schwannoma, 1 undifferentiated sarcoma (Figure 2), 1 Non-Hodgkin lymphoma in a man (Figures 3 and 4) and 2 carcinomas with unknown primary. In 2 patients, we found 1 unilateral and 1 case of first recurrence of bilateral infiltrating ductal carcinoma of axillary breast (Figures 5 and 6). All patients had CT evaluation to assess size and tissue involvement (Figure 7). Surgical treatment consisted of 3 surgical resections, 2 disarticulations of the shoulder (Figure 8) and medical treatment for others. Any of our patients had undergone chemotherapy or radiation therapy. The average hospital stay was ten days. Follow-up was marked by 1 lymphedema after resection in 1 patient and 1persistent brachial plexus palsy. Survival rate was of 25% after 16 months of follow up (2 patients).

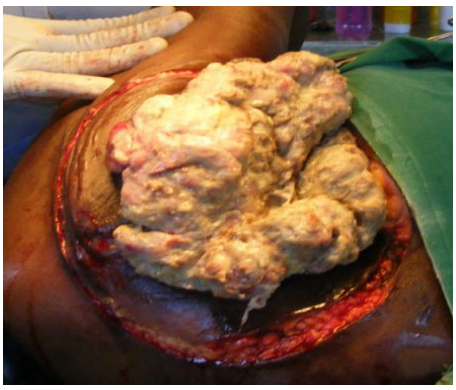

Figure 1: Ulcerated mass of the axilla.

***Corresponding author:** Sidy KA, Surgical Oncologist, Dakar University, Senegal, Tel: +221338250530; E mail: sidy.ka@ucad.edu.sn

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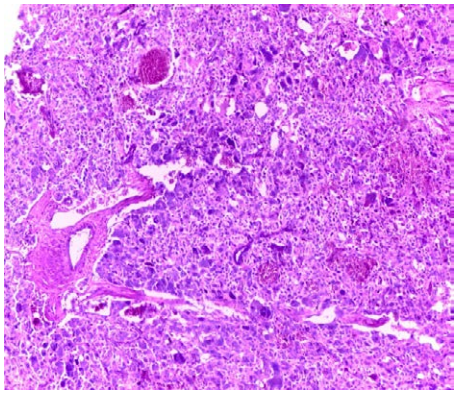

Figure 2: Undifferentiated sarcoma with pleomorphic cells (Hematoxylin Eosin x40).

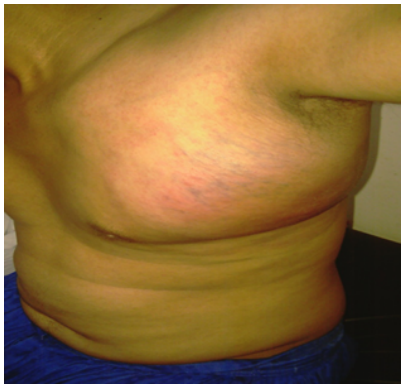

Figure 3: Axillary non-Hodgkin lymphoma.

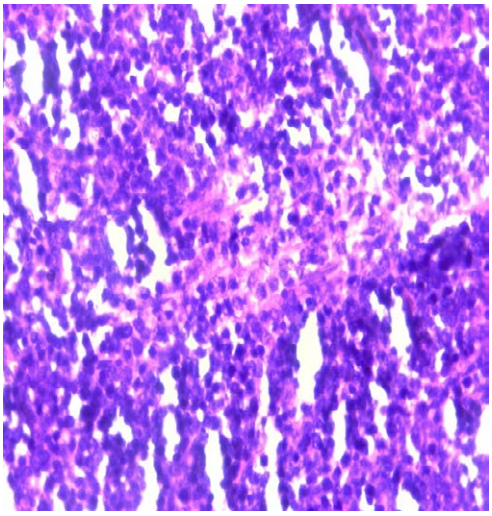

Figure 4: Malignant lymphoid proliferation with diffuse architecture (Hematoxylin Eosin x40).

Discussion

Axillary malignant tumors are rare. In four years, they represented 0.11% of our consultations. In the literature, few publications reporting cases of malignant axillary tumors have been noted. Frequency rarely exceeded 2 cases a year [1]. The sex ratio depends on the Benign or malignant nature of the tumor. Benign tumors are found especially in women with a sex ratio of 0.2 [2]. Non-Hodgkin Lymphoma (NHL) occur mostly in men (sex ratio of 2) [3]. Soft tissue sarcomas are noted especially among women [4]. The age of onset depends on the histologic type. Indeed, sarcomas were found at a mean age of 48 years, ranging from 18-72 years [3]. Schwannomas occur at any age with a sex ratio of 1 [5].

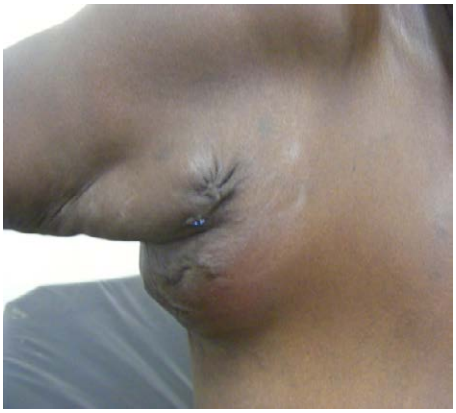

Figure 5: Supernumerary breast carcinoma.

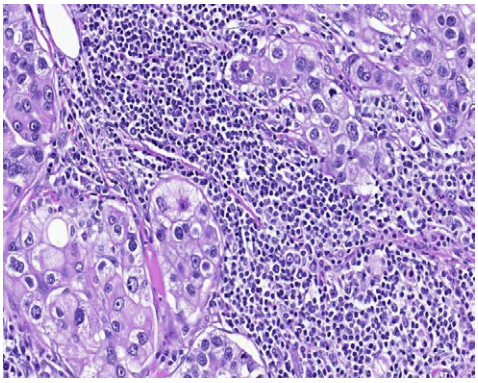

Figure 6: Ductal carcinoma of the axilla with lymphocytic stroma (Hematoxylin Eosin x25).

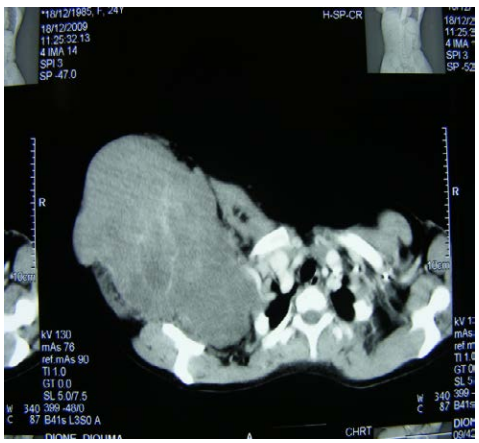

Figure 7: CT showing benign mass aspects.

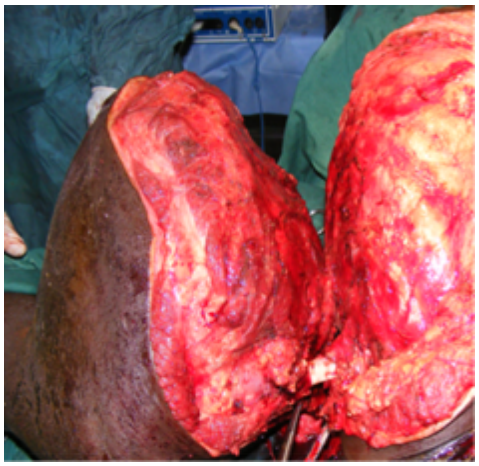

Figure 8: Shoulder disarticulation for armpit sarcoma.

The diagnostic depends on the clinical presentation, radiologic findings and pathology reports. Axillary elements are superficial. But tumors are large sized while diagnosed. In case of extra axillary localization malignancy and origin of the tumor can be suggested. Usually it is about primitive lesion diagnosed after ultrasound guided biopsy. All components of the armpit can develop a benign or malignant tumor [4].

Sarcomas interested all the structures contained in the armpit. Schwannomas most often affect the peripheral nerves. An exceptional location in axillary nerves was reported [6]. Multiple malignant nerve tumors occur mainly in the context of neurofibromatosis. Although neurofibromas are benign, malignant tumor complications are the severity of NF1. This is usually a malignant tumor of the nerve sheath whose risk of occurrence in adulthood increases of 3 to 4% [7]. The extra nodal lymphoma has a random location. It is found in order of frequency in the digestive system, the skin, the testicular and the brain. Axillary seat is usually nodal and multiple. It can be large sizes and be the occasional discovery of the disease [8]. Axillary breast is a common condition. Axillary breast cancer is such rare. Their early diagnosis depends on the experience of the practitioners and their classification is not different of the normal breast cancer. Other histologic lesions depending on their origin can be found. It is the case of tumors of the adnexal glands of the skin [9].

Treatment depends on the histology, the size and the stage. Radical surgery showed best results. The problem of conservative surgery is the risk of injury to neurovascular structures of the axilla. Indeed, lesions of brachial plexus and axillary vessels are common. The dislocation of the shoulder, radical gesture, as well as all mutilating surgery, has a great psychic and functional resonance [1]. For metastatic disease and chemo-sensible lesions like breast axillary cancer, lymphoma and high grade sarcomas chemotherapy is a good option at first step. Radiation therapy is better in adjuvant setting [10].

Survival and functional prognosis of malignant axillary tumors are reserved. This prognosis is linked to retardation care and the high frequency of aggressive malignancies. For sarcomas, prognosis depends on histologic subtype, stage, grade and size of tumors. Resectable sarcomas are characterized by high risk of recurrence and the need of radiation therapy more than chemotherapy to improve outcome [11]. Conservative surgery works best if adjuvant radiotherapy and after chemotherapy in high grades. For chemo and radio sensible tumors, resection and survival are improved [12]. Toxicities of soft tissue treatment can be severe. Particularly in high dose chemo or radiation therapy. Tumor board and standard of treatment can avoid morbidity of treatment by modulating doses and volumes [13].

Conclusion

Axillary tumors are infrequent. Their prognosis is influenced mainly by histological type. The neurovascular structures of the axilla make conservative surgery difficult. The choice of treatment is not easy in view of the absence of recommendations. The results of surgical treatment are disappointing with high mortality and disabling functional and psychic sequels. Prognosis is improved by chemotherapy and radiation therapy for sensible lesions.

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