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Malignant Fibrous Histiocytoma (MFH) in Axilla

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Palpable axilla mass in woman is relatively rare. Almost all palpable lumps in axilla are axillarys accessory breasts without mass lesion. All diseases develop in breast can also develop in axillarys accessory breasts and other soft tissue mass can occur in axilla. Malignant fibrous histiocytoma (MFH) is the most common malignant soft tissue tumor, but axillarys MFH is extremely rare. We report our experience with a 75-year-old woman with MFH in axilla, treated with wide excision.

Key Words: Malignant fibrous histiocytoma, axilla

INTRODUCTION

Authors report a case of malignant fibrous histiocytoma (MFH) presented as an axilla mass.

Malignant fibrous histiocytoma generally occurs in adults, appears more frequently in men than women, and shows a racial predilection of whites more often than blacks or Asians. The lower extremity is the most common site of involvement, followed by the upper extremity and retroperitoneum, but malignant fibrous histiocytoma occurring in the axilla is extremely rare. Authors' case shows an unusual primary site of MFH.

CASE REPORT

A 75-year-old woman presented with a large movable left axillary mass. She detected the mass about 5 years ago, but did not have an examination in hospital. In the past five years, the mass was slow growing, but recently, the mass had enlarged quickly, leading to axillary discomfort. Mammography and sonography were taken. Mediolateral oblique view showed a relatively circumscribed mass in left axilla without abnormality in both breast parenchyma (Fig. 1A). The axillary view revealed a circumscribed, high-density mass with macrolobulation measuring about 6 × 5 cm (Fig. 1A). There was no evidence of calcification within the mass or adjacent axillary tissue. Ultrasonography was taken with 10 MHz linear and 3.5 MHz convex transducer and showed a 6 × 5 × 5 cm-sized low echoic mass. The mass presented with a relatively circumscribed margin and partly irregular portion, obliterating the surrounding subcutaneous fat, and internal heterogenecity (Fig. 1B, C). On color Doppler study, the mass revealed adequate blood flow mainly in the echogenic solid portion, but no increased blood flow in the low echoic area, which we anticipated to be necrosis (Fig. 1D). The patient underwent mass excision, and gross examination revealed a 7 × 6 × 5 cm- sized mass with central hemorrhagic necrosis (Fig. 1E). The pathologic examination revealed myxoid malignant fibrous histiocytoma (MFH) with moderate cellularity, mild pleomorphism, and mitosis that was more than 5 in high power fields, with focal tumor necrosis (Fig. 1F).

DISCUSSION

Malignant fibrous histiocytoma (MFH) is the most common malignant soft tissue tumor, representing 24.1% of all cases of malignant soft tissue tumor.[1] It affects predominantly middle-

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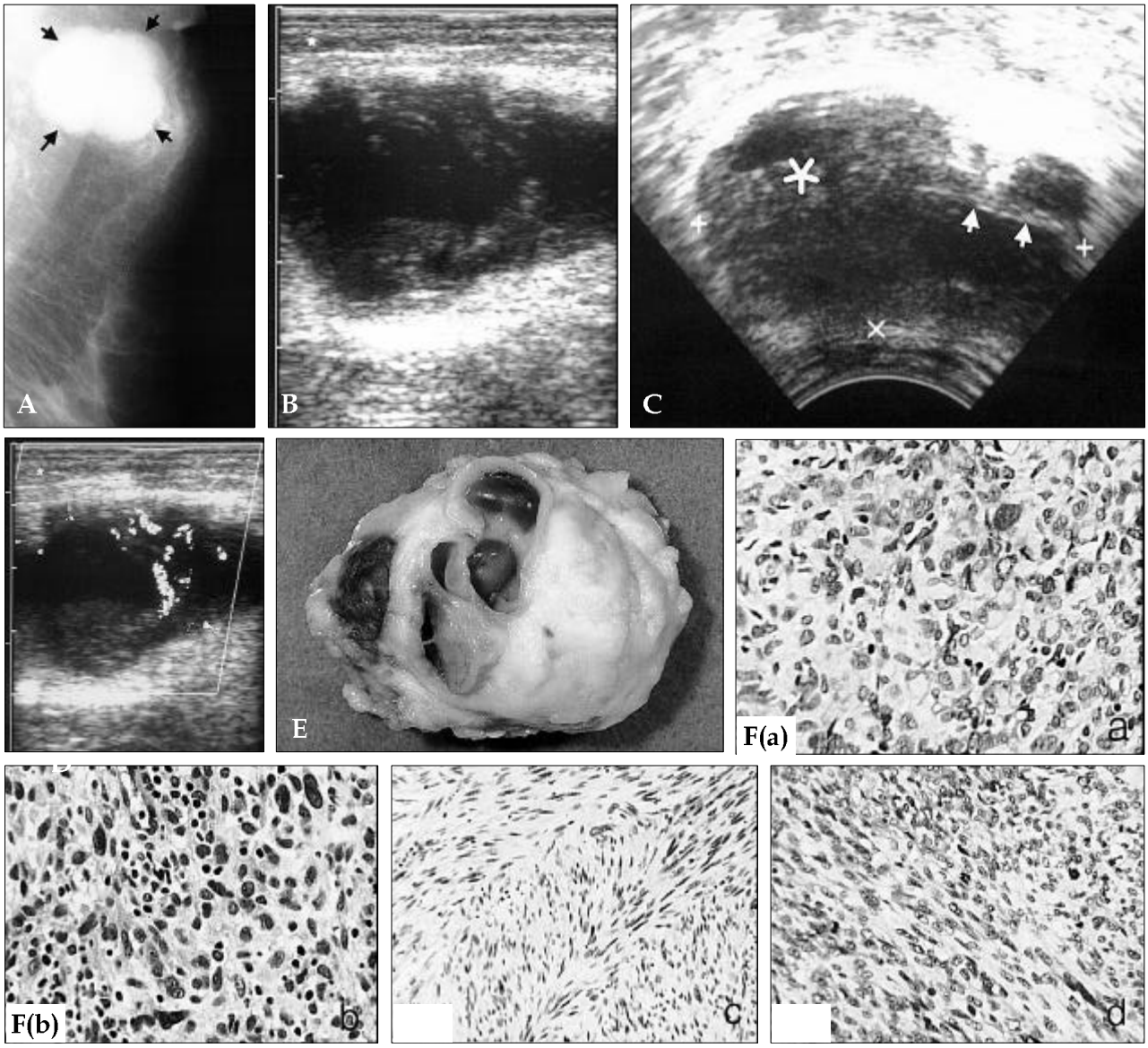

Fig. 1. A 75-year-old woman presented with large mass in left axilla. A. Mammography, mediolateral oblique view (A) showed large left axillary mass (arrows) (partially included in this study). Axillary view (B) showed more detailed features of the mass, relatively circumscribed, macrolobulated, high density mass(arrows) without combined calcifications. B. The ultrasonography of the mass using 10 MHz transducer revealed heterogeneous low echoic mass with internal high echoic portion. C. The ultrasonography of the mass using 3.5 MHz transducer showed macrolobulated heterogeneous echoic mass with an internal septa-like portion and some solid areas. D. On Doppler study, increased blood flow within the mass, especially in the solid portion. E. Gross photograph of the mass. Cross section of the mass shows a well demarcated pale yellow myxoid and solid mass with focal cystic and hemorrhagic change. F. Pathologic examination of the axillary mass shows the wide range of histological patterns. Some areas have pleomorphic xanthoma cells (a), while other areas are commonly infiltrated with inflammatory cells (b), have a distinct fascicular pattern (c), and show many mitotic figures (d). (H&E A, ×400; B, × 400; C, × 200; D, × 400.)

aged to elderly persons (approximately 50 to 80 years old). The male-female ratio is approximately 4 : 3. Lower extremities (50%) are the most common site of involvement followed by upper extremities (25%) and the retroperitoneum (15%).[2] Some lesions are located intraabdominally and retroperitoneally, in sites including the stomach, colon, small intestines and appendix. Although malignant fibrous histiocytoma can originate in any organ,[3] axillary MFH is extremely rare. There

are few reports about MFH arising in axilla; some cases developed after radiation therapy for breast cancer.[4] Clinically, MFH presents as a painless, slow-growing palpable mass. MFH sometimes presented as a large hematoma because of intratumoral hemorrhage. Presence of foreign bodies, previous local trauma, infection and radiation therapy 4 are considered to be predisposing factors. However, our patient did not have any related history. Histologically, MFH is divided into five subtypes: storiform-pleomorphic, myxoid, giant cell, inflammatory, and angiomatoid. However, these types have no distinctive light microscopic features, and the majority (50 - 60%) of MFHs belongs to the storiform-pleomorphic type. This case revealed the myxoid variant. Myxoid MFH accounts for approximately 25% of all cases. When a lesion consists of more than 50% of myxoid tissue, it is classified as myxoid MFH.[5] Ultrasound examination of myxoid lesions shows inhomogeneous mass with hypoechoic intratumoral areas of necrosis and a hyperechoic cellular area.[3] Our case also showed a hypoechoic necrotic area and hyperechoic solid tumoral component. On Doppler study, the solid portion of the myxoid tissue mass revealed increased blood flow. CT reveals a homogeneous or inhomogeneous mass with soft tissue density similar to or slightly lower (10 - 60HU) than that of skeletal muscle.[6] After intravenous contrast injection, moderate to strong enhancement of the solid component of the mass is seen. Intratumoral necrosis, hemorrhage or myxomatous tissue may be present.[6] On MRI, myxoid tumors show non- specific findings of soft tissue mass and there is no correlation between histologic type and MRI appearance, except for myxoid MFH being less heterogeneous on T2-weighted images.[7] In myxoid MHF, central myxoid areas show low signal intensity in T1 and high signal intensity in T2-weighted images.[7] Though the radiologic appearance of most soft-tissue masses remains nonspecific,1 it might be possible obtain more detailed information if we had performed MRI before operation, since the mass contained multiple foci of hemorrhage and myxoid components.

REFERENCES

1. Kransdorf MJ. Malignant soft-tissue tumors in a large referral population: distribution of diagnoses by age, sex, and location. AJR 1995;164:129-34.
2. Goldman SM, Hartman DS, Weiss SW. The varied radiographic manifestations of retroperitoneal malignant fibrous histiocytoma revealed through 27cases. J Urol 1986;135:33-8.
3. Ros PR, Viamonte M Jr, Rywlin AM. Malignant fibrous histiocytoma: mesenchymal tumor of ubiquitous origin. AJR 1984;142:753-9.
4. Hardy TJ, An T, Brown PW, Terz JJ. Post irradiation sarcoma (malignant fibrous histiocytoma) of axilla. Cancer 1978;42:118-24.
5. Miller TT, Hermann G, Abdelwahab IF, et al. MRI of malignant fibrous histiocytoma of soft tissue: analysis of 13 cases with pathologic correlation. Skeletal Radiol 1994;23:271-5.
6. Paling MR, Hyams DM. Computed tomography in malignant fibrous histiocytoma. J Comput Assist Tomogr 1982;6:785-8.
7. Murphey MD, Gross TM, Rosenthal HG. Musculoskeletal malignant fibrous histiocytoma: radiologic-pathologic correlation. Radiographics 1994;14:807-26.