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Case Report

SOLITARY PLASMACYTOMA OF RIB ORIGIN IN A YOUNG ADULT A RARE CASE REPORT

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Abstract

Solitary plasmacytoma of bone, specially of a single rib, is a rare disease and is characterized by only one or two isolated bone lesions with no evidence of disease dissemination. Here we present a case of 35-year-old male who was presented with a recurrent swelling in left lower lateral chest wall with symptoms of localized pain. Radiological evaluation revealed a solitaryexpanding lesion in left lower lateral chest wall. Fine needle aspiration showed numerous small round cells having hyperchromatic nuclei with scanty cytoplasm. en-bloc resection of the tumor, including involved part of left 9th rib, the intercostal muscle and the parietal pleura with primary closure of chest wall. Histopathology of the resected mass revealed plasma cell neoplasm, highly suggestive of solitary plasmacytoma. The patient referred to oncologist for further management.

Key Words: Chest wall, Plasmacytoma, Rib, Radiotherapy

Introduction

Solitary plasmacytoma of bone(SPB) is a rare localized lesion that accounts for only 4% of malignant plasma cell neoplasias.[1] This may present as the sole manifestation of plasma cell neoplasm , as a solitary plasmacytoma of bone or as a consequence of multiple myeloma. A solitary plasmacytoma in a rib usually shows destruction of bony cortex with involvement of surrounding soft tissues and considered to be curable with radiotherapy and surgical resection. Plasmacytoma may be primary or secondary to disseminated multiple myeloma and may also arise from bone(medullary) or soft tissues. SPB has been considered to be a genetic disorder that can often change to multiple myeloma.[2] Solitary plasmacytoma is rare as compared with multiple myeloma. Herein, we report a case of solitary plasmcytoma of rib presented as a soft tissue mass.

Case Report

Mr. Osman, A 35 year old male presented at surgery department of Comilla Medical College Hospital with a recurrent swelling in left lower lateral chest wall associated with mild pain over the same region for 4 months. He had no history of cough or fever. He had history of similar swelling in the same area for which he underwent local excision 5 months back but no document was found. After 1 month of excision the swelling recurred and was rapidly increasing in size. On local examination, a swelling found in left lower lateral chest wall with overlying scar mark approximately 6×4 cm in size , hard and mild tender, fixed with overlying skin and underlying chest wall. Systemic examination revealed no other abnormality.

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During surgery, an elastic hard mass, measuring approximately 7×5cm was found which involved the left 9th rib extending into surrounding soft tissues. Completeen-bloc resection of the chest wall , including part of part of the rib, the intercostal muscleand the parietal pleura, was done with 3 cm. from the tumor margin. (Fig.2,3) Primary closure of chest wall was done by prolene suture and chest wall reconstruction was not needed.(Fig.4,5)

Histopathological findings were suggestive of solitary plasacytoma of chest wall. After histopathological findings the patient referred to oncologist for further management.

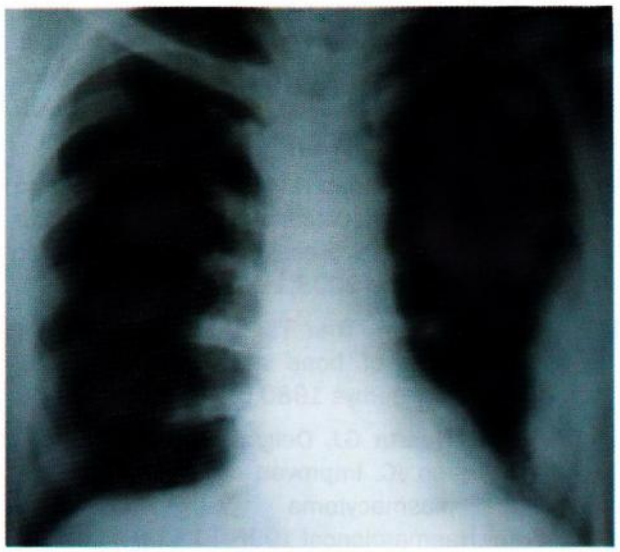
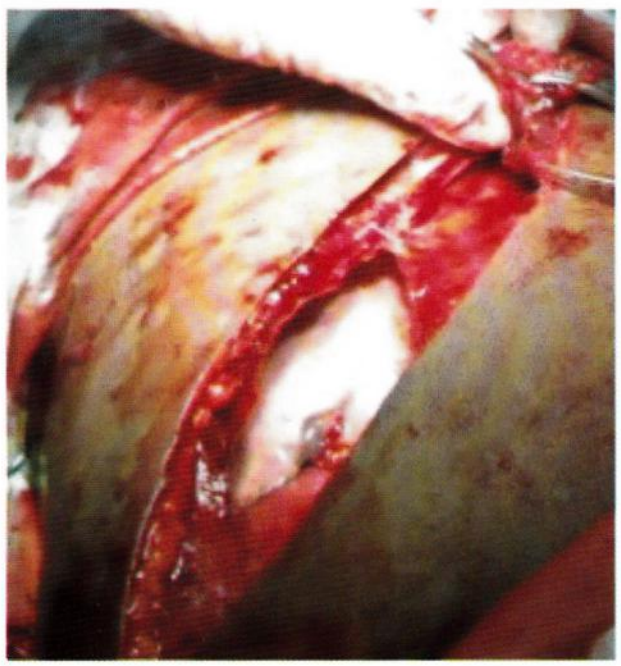


Fig. 1 Chest X-ray showing a mass lesion in lower left lateral chest wall



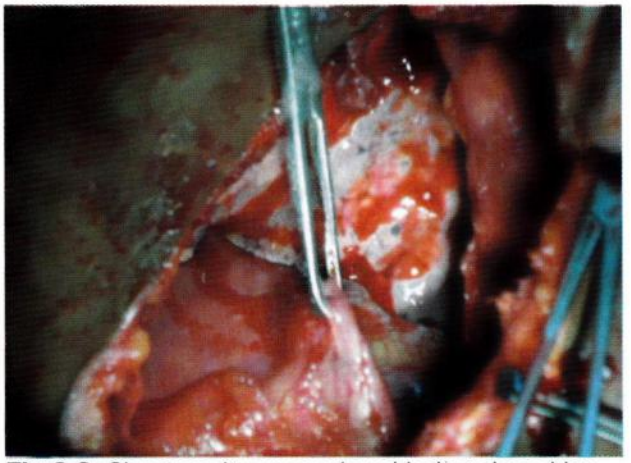


Fig.2,3: Chest cavity opened and being closed by primary repair

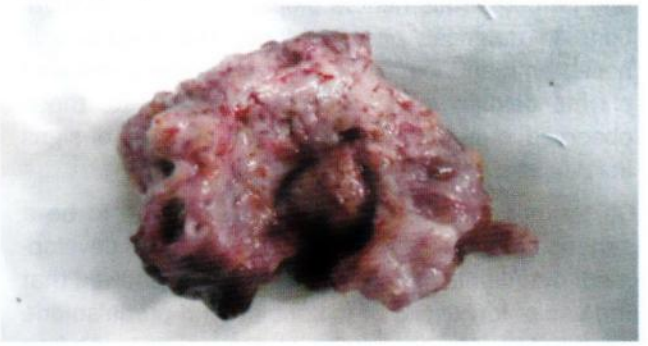


Fig.4 : Excised tumor

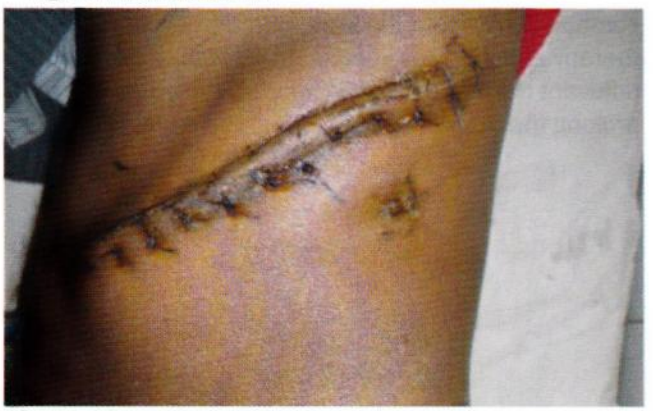


Fig. 5: After primary closure

Discussion

Solitary plasmacytoma of bone are defined as clonal proliferation of plasma cells identical to those of plasma cell myeloma, which manifest a localized osseous growth. Plasmacytoma can be divided into multiple, solitary osseous, and solitary extraosseousor extramedullary plasmacytomas and rare as compared with multiple myeloma.[3] Localised SPB is a rare disease and is characterized by one or two isolated bone lesions with no evidence of disease dissemination. The incidence of SPB has been reported to be approximately 3/1000000 annually.[4] SPB is an uncommon disease that accounts for only 5% of malignant plasma cell tumors and is less common in the chest wall than in spine.[2]

The ratio of male to female patient approximately 1.3:1. The average age of presentation was 59.5 years with a range of 39 to 77 years.2 In past, radiation therapy was used as the primary treatment for solitary plasmacytoma. Mendenhall et al, reported a 6% local failure rate in patients with solitary plasmacytoma treated with doses of 40 Gy or above in contrast to 31% for doses below 40Gy.[4] In this case, we had referred the patient to radiotherapy specialist after radical surgery and histopathological diagnosis.

The primary methods for treating solitary plasmacytoma were surgery with radiation therapy in 95 cases and surgery alone in 15 cases.[2] The criteria for diagnosis of SPB are variable. Plasmacytoma almost always destroys bone. Contrast enhanced CT scan and percutaneous needle biopsy are best investigations to diagnose chest lesions. The diagnosis is based on identification of localized tumor composed of monoclonal plasma cells identical to those observed in multiple myeloma, and absence of signs in favor of a disseminated form.

On the contrary, SPB has been considered to be a genetic abnormality which could lead to the development of multiple myelomas.[5] Aviles et al, showed that the use of low doses of melphalan and prednisolone contributed to an improvement in disease-free survival and overall survival in patients with SPB, compared with patients who were treated with radiotherapy alone.[5] Their results suggest that the use of adjuvant chemotherapy will improve the outcome and prolong the duration of remission and survival.

Conclusion

In conclusion, there are very few reports in the literature depicting the natural history of SPB in an adult regarding its mode of presentation, pathology and treatment. Our case may help recognition of this rare disease in the surgical field, thus avoiding misdiagnosis and inadequate treatment. The prognosis is generally good and dominated by the risk of progression to multiple myeloma.

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