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SOLITARY PLASMACYTOMA;
OSTEOLYTIC LESION OF CLAVICLE-CASE REPORT

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ABSTRACT… Solitary plasmacytoma of bone is one of the subtypes of plasma cell neoplasms. Solitary plasmacytoma is a kind of malignant tumor characterized by localized collection of monoclonal plasma cells. It is most frequently seen in vertebrae and long bones. Plasmacytoma of clavicle is very rare. We report a case of solitary plasmacytoma of lateral end of clavicle in a 30 year old male presented with complaint of pain and swelling around the right shoulder region, though SPB can involve any bone of body but SPB involving the lateral end of clavicle is very rare presentation.

Key words: Solitary plasmacytoma bone; Multiple myeloma; Clavicle.

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INTRODUCTION

Plasma cell neoplasms (multiple myeloma, solitary plasmocytoma of bone and extra-medullary plasmocytoma) are characterized by a monoclonal neoplastic proliferation of plasma cells. Plasmacytoma results from clonal proliferation of plasma cells that are identical to plasma cells of myeloma on both the cyotologic and immunophenotypic levels. Plasmacytoma can be subclassified as osseous disease or extraosseous tumor. Primary bone tumors and tumor-like lesions of clavicle are uncommon. Klein et al[1] found that only 0.45% of more than 1300 primary bone tumors involved the clavicle.

The new World Health Organization (WHO) criteria define solitary plasmacytoma of bone (SPB) as 'a localized bone tumor consisting of plasma cells identical to those seen in plasma cell myeloma, which appears as a solitary lytic lesion on radiological examination[2].

The diagnosis usually can be confirmed by serum immunoelectrophoresis, which demonstrates a monoclonal gammopathy. In contrast to multiple myeloma diagnostic criteria for plasmacytoma is solitary lytic bone lesion or extraosseous/ extramedullary mass of neoplastic plasma cells with no evidence of plasmacytosis in other bone marrow sites, absence of clinical features of plasma cell myeloma (renal insufficiency/ anemia/ hypercalcemia) and negative bone scan.

CASE REPORT

A 33 year old male reported with complaints of swelling over the right shoulder region for 5 months which was slowly and gradually increasing in size and swelling was associated with pain that was mild in intensity.

On local examination a spherical swelling of about 6x6 cm over the lateral aspect of clavicle, with normal temperature as compared to surrounding areas , non tender , smooth surface and well defined margins swelling was firm to hard in consistency. Swelling was fixed to underling structures but not to the skin. Skin was freely mobile over swelling. All the movements of shoulder joint were within normal range of movement and were without pain, except overhead abduction that was associated with pain. X ray of Right clavicle showed expansile

Osteolytic lesion involving the lateral end of clavicle with erosion of cortex. Fig1

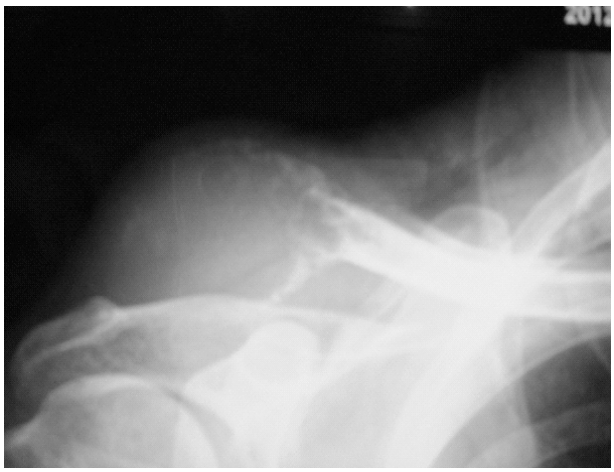

Fig-1

Bone scan showed isolated photon deficient area (Lytic lesion), with rim of mildly increased uptake of radiotracer involving lateral end of clavicle. MRI of Right shoulder showed a large fairly well defined solid enhancing abnormal signal intensity mass involving the distal clavicle measuring 7.0 x 5.7 x 4.0 cm. The mass is causing expansion of clavicle and is seen extending up to the articular surface of clavicle in the region of acromioclavicular joint. No definite extension of mass is noted in acromion. Findings are suggestive of neoplastic lesion.

Excision of lesion was performed through anterior approach to clavicle whole of the lesion was excised along with 2cm of normal piece of bone and sample was sent for histopathology. Fig.2

Microscopic features of sections examined revealed a neoplastic lesion composed of sheets and cords of plasma cells. These cells have eccentric, hyperchromatic nuclei with dispersed chromatin and occasional prominent nucleoli, and abundant cytoplasm. Blood vessels are also seen lined by bland endothelial cells occasional mitotic activity is noted. Features are compatible with plasma cell neoplasm.

Complete blood count, urea, creatinine, alkaline phosphatase, C-reactive protein, serum calcium and phosphorus levels showed normal values. Urinary Bence Jones Proteins were negative .Protein electrophoresis showed a well defined peak in Gamma Region consistent with monoclonal gammopathy. Serum immunoglobulin levels showed a raised levels of serum Light chains (Kappa and Lambda) and serum IgG levels. Serum immunofixation showed findings consistent with I gG Lambda monoclonal gammopathy .Bone marrow biopsy revealed no evidence of bone marrow involvement with plasma cell dyscrasia. Thereafter skeletal survey was negative for any other concomitant pathological lesion. Oncological opinion was taken regarding further management t of local control of lesion and patient underwent radiotherapy in a dose of 45 Gy.

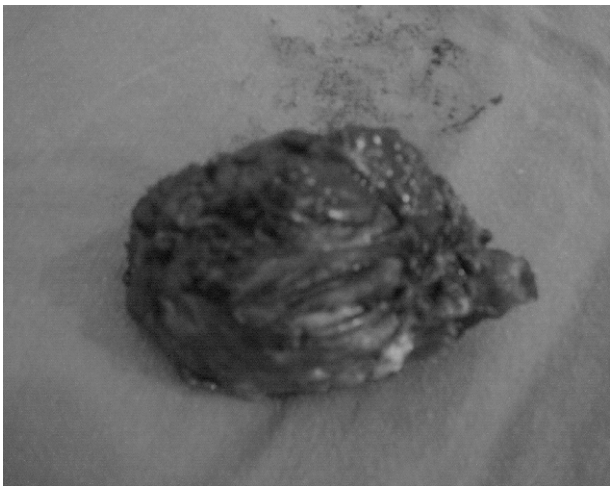

Fig-2.

DISCUSSION

Solitary bone plasmacytoma of the clavicle is an extremely rare tumour, with an incidence of approximately 0.05% among the primary tumours of skeleton. In 2006 Panagopoulos A et al[3] reported similar case which was radiotherapy resistant.

Bone pain is the most common complaint for patients with SPB as with multiple myeloma. Systemic problems such as weakness, weight loss, anaemia, thrombocytopenia, peripheral neuropathy, hypercalcemia, or renal failure frequently are present at the time of diagnosis in

multiple myeloma but in contrast these systemic findings are absent in SPB[4].

Less than 5% of patients with a plasma cell dyscrasia present with a single bone (SBP) or extramedullary plasmacytoma (EMP) without evidence of systemic disease.

It has been reported that skeletal plasmacytoma is known to progress more frequently to multiple myeloma than extra skeletal disease[5].

Recommended diagnostic criteria for Solitary bone plasmacytoma is :

1. A single area of bone damage due to clonal plasma cell hyperplasia.
2. Histologically normal marrow aspirate and trephine.
3. Normal results on skeletal survey, including radiology of long bones.
4. No anemia, hypercalcemia, or renal impairment due to plasma cell dyscrasia.
5. Absent or low serum or urinary level of monoclonal immunoglobulin (level of >20g/L suspicious of MM).
6. No additional lesions on MRI scan of the spine.

Histopathological examination plays an important role in diagnosing this disease.

Local radiotherapy and alternatively surgery are treatment options for adequate local control. Patient should be followed even after the local treatment of disease has been performed because approximately 50-60% of patients with SBP may progress to multiple myeloma over the period of 10-15 years.

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