Solitary plasmacytoma of clavicle: A case report

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ABSTRACT

Introduction: Plasmacytoma is a localized collection of malignant plasma cells. The disease can be divided into solitary plasmacytoma of the bone (SPB) and extramedullary plasmacytoma (EMP), both of which are distinct entities. An EMP, the rarer of the two, has soft tissue infiltration by clonal plasma cells without any occult or systemic myeloma. Whereas, SPB has a solitary lytic bone lesion with infiltration of monoclonal plasma cells, with absence of the same on a random marrow sampling or any evidence of systemic myeloma. Though SPB may involve any bone in the body but involvement of medial end of clavicle, though reported, is extremely rare. Case Report: Herein, we report a case of a 65-year-old farmer presented with pain and swelling of the medial end of the left clavicle, which was postoperatively diagnosed to be a solitary plasmacytoma by virtue of histopathology and IHC, with no other evidence of osteopenic lesions on radiographs, a negative bone scan, absence of marrow involvement by monoclonal plasma cells, presence of M-band on serum protien electrophoresis, in the IgG region and no evidence of anemia, hypercalcaemia, hyperuricemia, hypercreatininemia, nephropathy, respiratory and urinary tract infections that can suggest the presence of any systemic myeloma. Conclusion: The case of solitary plasmacytoma of the clavicle reported here is a very rare as a disease entity, and rarest because of the site of involvement. The patient was treated with surgery and radiotherapy and had excellent disease control.

Keywords: Solitary plasmacytoma bone (SPB), Multiple myeloma, Clavicle, Extramedullary plasmacytoma

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INTRODUCTION

Solitary plasmacytoma of the bone (SPB) comprises only 3–5% of all plasma cell neoplasms [1]. The new world health organization (WHO) criteria define SPB as a solitary lytic bone lesion with infiltration of monoclonal plasma cells, with absence of plasmacytosis on a random marrow sampling, with absence of any evidence of systemic myeloma (renal insufficiency/anemia/hypercalcaemia) and a negative bone scan; along...
with a monoclonal gammopathy on serum protein electrophoresis.

The SPB more commonly involves the axial skeleton, with an active marrow, as in vertebra, ribs, skull, pelvis, femur, clavicle and scapula relatively sparing the appendicular skeleton [1].

Primary bone tumors and tumor-like lesions of clavicle are uncommon, comprising only 0.45% of the total, and their occurrence is more likely to be malignant, than benign [2, 3]. We hereby present a case of SPB involving the clavicle, which is rare as per the disease entity and rarer because of the site involved.

CASE REPORT

A 65-year-old male farmer was presented with a two-month history of swelling and a month old pain, increasing on exertion, around the left shoulder, with loss of appetite for the same duration. The lump was initially the size of a lemon, before it progressed. Clinical examination revealed a hard non-tender lump on the medial end of the left clavicle 4x5 cm with restricted shoulder mobility. There were no palpable nodes. Radiographs of chest showed a lytic expansile lesion involving medial one-third of left clavicle associated with a soft tissue mass in the apical region of the chest (Figure 1).

A plain non-contrast computed tomography (CT) scan of the neck and thorax is shown in Figure 2.

(i) Normal CT scan of the neck,

(ii) Soft tissue density lesion with bony expansion and erosion of medial end of left clavicle with adjacent soft tissue density lesion and no evidence of rib crowding- bone biopsy suggested,

(iii) Fibrotic strands in both upper and right lower lobes.

(iv) Simple liver cyst.

Ultrasonography of the whole abdomen showed a simple cyst in right lobe of liver. Blood counts, liver and kidney function tests were normal except for serum LDH 725 U/L. Bone marrow examination revealed anemia of chronic disease, with no evidence of plasmacytosis or secondary deposits.

Fine needle aspiration of the clavicular lump revealed a malignant mesenchymal neoplasm, possibly spindle cell sarcoma with lymphoplasmacytic infiltration. Independent review of the slides too, did not reveal the presence of any abnormal or immature plasma cells, probably because of sampling error or error in terms of slide preparation or preservation (Figure 3). The patient then underwent an excision of the left clavicular lump. The postoperative histopathology showed the presence of a plasma cell neoplasm, comprising sheets of immature plasmacytoid cells, admixed with a few mature plasma cells (Figure 4). Immunohistochemistry (IHC) showed expression of CD 138 and CD 38, and are immunonegativity for cytokeratin, CD 56 and CD 20, confirming the diagnosis to be of plasma cell neoplasm. The IHC for immunoglobulin light chain was not done.
As far as treatment is concerned excision remains the mainstay of treatment, where ever possible. Radiotherapy has also shown to be successful for local control of solitary plasmacytoma [6]. However, chemotherapy is recommended to patients with disseminated disease and evidence of progression following the primary modes of treatment. This case is extremely rare, and the patient had an excellent disease control with surgery and radiotherapy. Long-term follow-up will be necessary for our patient as 35–55% of patients of SPB, might end up developing multiple myeloma over a period of 10–12 years from initial diagnosis [7].

CONCLUSION

We reported a case of solitary plasmacytoma of clavicle which is a rare disease, presenting in an extremely rare site. The diagnosis was confirmed by clinical suspicion, postoperative biopsy, immunohistochemistry, and other investigations relevant to rule out the presence of systemic myeloma. The patient was treated by surgery followed by radiotherapy. As per world literature this is the standard of care. The patient had excellent disease control, and is currently undergoing follow-up.

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Author Contributions

Arun Dhyani – Conception and design, Drafting the article, Final approval of the version to be published
Abhash Shankar – Analysis and interpretation of data, Drafting the article, Final approval of the version to be published
Arunima Gupta – Acquisition of data, Critical revision of the article, Final approval of the version to be published
Rupesh Kumar – Acquisition of data, Critical revision of the article, Final approval of the version to be published
Koushik Chatterjee – Conception and design, Critical revision of the article, Final approval of the version to be published
Anup Majumdar – Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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