

CASE REPORT

MULTIPLE MYELOMA PRESENTED AS AN ANTERIOR CHEST WALL MASS DIAGNOSED BY CYTOLOGICAL EXAMINATION: A CASE REPORT

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ABSTRACT: Myeloma is a malignancy of terminally differentiated B cells (plasma cells) that produce a complete and/or partial monoclonal immunoglobulin protein. Myeloma accounts for approximately 1% of all malignancies and 10% of haematological tumors. It becomes difficult to arrive at early diagnosis because myeloma manifests itself in different forms. The disease usually presents as bone pains, pathological fractures and anemia but can also present as swelling in jaw, orbit, rib, sternoclavicular area, scalp, paraspinal region and tonsil. We present a case of multiple myeloma in 63 year old male which presented as a soft tissue mass on anterior chest wall and diagnosed by FNAC. This case is presented because diagnosis was made on cytology and not many cases have been reported in literature where FNAC helped in making the diagnosis. This increases the hope of early diagnosis so that treatment can be advocated.

KEYWORDS: Multiple Myeloma, anterior chest wall mass, FNAC, plasmacytoma.

INTRODUCTION: Multiple Myeloma (MM) is relatively a rare hematological malignancy that predominantly occurs in patients over 60 years of age.¹ The disease is probably somewhat more common in men than in women.² It is a malignant proliferation of plasma cells predominantly affecting bone marrow and skeletal system. It is quiet commonly diagnosed late due to wide modes of presentation and clinically apparent stage is usually preceded by an asymptomatic period of variable duration. Multiple Myeloma is named for the 'clock face' appearance of these cancer cells when seen under the microscope. They infiltrate virtually all of patient's bone marrow. When only one lesion is found it is called plasmacytoma.

Multiple Myeloma usually occurs spontaneously. Patients exposed to ionizing radiation and the pesticide dioxin may develop the disease. Infections with some viruses (HIV and human herpes virus 8) have also been associated with multiple myeloma.³

CASE REPORT: A 63 year old male presented to surgical outpatient department with swelling of anterior chest wall. The patient noticed it one month back. There is history of dysphagia, loss of weight and appetite. He is a smoker and alcoholic with history of diabetes mellitus and hypertension on treatment. There is no obvious cervical lymphadenopathy.

Ultrasound showed a 5x3 cms heterogenous lesion with hyperechoic areas over sternum. Contrast enhanced computed tomography (CECT) of neck and chest revealed a well-defined enhancing soft tissue mass of size 6.5 x 4.8 cm in midline upper anterior chest wall involving the suprasternal notch region and superficial to manubrium sternum in subcutaneous location. There is mild cortical bone erosion within the manubrium sterni. There is no obvious cervical

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lymphadenopathy, thyroid gland is normal. Fibrocavitary changes with calcium, cicatricial bronchiectasis and pleural tagging in right upper lobe and superior segment of lower lobe seen in lung with rest of the parenchyma within normal limits. The final opinion of CECT suggested malignant neoplastic etiology.

Endoscopy revealed erosive gastritis of body and antrum. 2D Echocardiography showed good left ventricle & right ventricle systolic function, no pericardial effusion, decreased left ventricle diastolic compliance. X-ray skull showed multiple lytic lesions of different sizes.

Laboratory investigations were as follows: Hemoglobin: 10.2 gm%, total Leucocyte count: 8000 cells/cm, differential count: polymorphs: 55%, lymphocytes:40%, eosinophils: 5%, ESR:138 mm 1st hour, platelets:2.5 lakhs/cumm, serum protein: 7.3gm/dl, serum albumin: 2.8 mg/dl, serum creatinine: 1.7 mg/dl, serum sodium: 132 mmol/l, serum potassium: 2.07 mmol/l, serum calcium: 8.2 mg/dl, SGPT: 35IU/l, serum LDH: 453 IU/l.

On examination, a 5x8 cm hard, fixed, painful mass is present over the anterior chest wall [fig 1]. FNAC smears showed sheets of atypical round to oval cells with bi & multinucleated forms. They showed abundant cytoplasm and peripherally pushed nucleus. There was mild to moderate nuclear pleomorphism [figs 2, 3&4]. The possibility of myeloma was given with a differential diagnosis of poorly differentiated carcinoma. Bence Jones proteins were positive. Bone marrow aspiration showed hypercellular marrow with increased proliferation of plasma cells which constituted 32% of marrow cells with flame cells and mott cells [fig 5].The diagnosis of Multiple Myeloma was confirmed. Patient was on chemotherapy, we could follow up the case for 6 months and then lost for follow up.

DISCUSSION: Tumor of plasma cells can manifest as Multiple Myeloma & Solitary Plasmacytoma. Plasmacytoma is further classified into 2 groups - Osseous (solitary plasmacytoma of bone SPB) and Non-osseous (extra medullary plasmacytoma EMP)⁴ each comprising <4% of all plasma cell neoplasms.⁵

Extramedullary Plasmacytomas are four times more likely to occur in males, than in females and 95% of tumors occur over the age of 40 years (mean age 59 years).⁶ 80% of EMP occur in head and neck, especially the nasopharynx and paranasal sinuses. Rare cases have been described in the skull base, larynx, hypopharynx, parotid gland, submandibular gland, thyroid, mandible region, etc. Our case presented as swelling on the anterior chest wall.

Swelling of chest wall as initial presentation is an unusual presentation of Multiple Myeloma and can be a difficult diagnosis, for clinicians.⁷ In such cases FNAC of the swelling will be definitely helpful in guiding the clinician towards the diagnosis which can be confirmed by further relevant investigation.

On FNAC, the smears of Plasmacytoma are cellular, composed of plasmacytoid cells showing pleomorphism with bi and multinucleation.⁸ The smears studied in our case showed plasma cells with moderate nuclear pleomorphism and bi and multinucleated forms, which was also observed in the study of Bhat RVet al.⁹

Differential diagnosis of metastatic carcinoma was considered as the first possibility by clinician. Smears examined showed characteristic features of plasma cells including perinuclear hoff and there is lack of cohesive arrangement of cells and absence of prominent nuclear

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pleomorphism. Bence Jones proteins were positive. Bone marrow aspiration revealed 32% plasma cells.

The potential for malignant systemic progression is higher for solitary plasmacytoma of bone than extramedullary plasmacytoma.¹⁰ Local irradiation is the primary mode of treatment for extramedullary plasmacytoma, occasionally followed by surgical resection of residual tumor. When extramedullary plasmacytoma with MM is diagnosed, local treatment of plasmacytoma should be followed the systemic combination chemotherapy.

The prognosis for extramedullary plasmacytoma with Multiple Myeloma is poor and most patients die within 2years of diagnosis. The 3year survival rate is only about 10%.⁵

CONCLUSION: Multiple Myeloma presenting as chest wall mass is quite rare. Failure to recognize the multiple presentations of MM leads to delayed diagnosis and treatment. FNAC definitely offers an early and accurate method of diagnosis of these unusual cases which present as a diagnostic dilemma to the clinician.

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Figure 1: 6x8 cm hard fixed painful swelling of the anterior chest wall.



Figure 1

Figure 2: Fine needle aspiration smear showing many plasma cells with moderate anisonucleosis & binucleated forms 400x H & E.

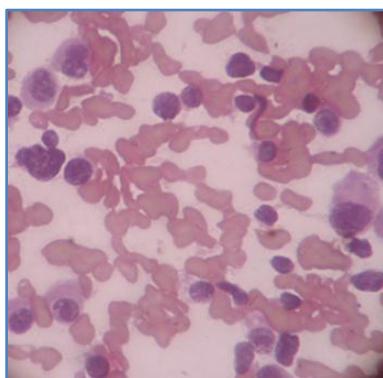


Figure 2

Figure 3: Smear shows abnormal plasma cells with intra nuclear inclusions 400x H & E.

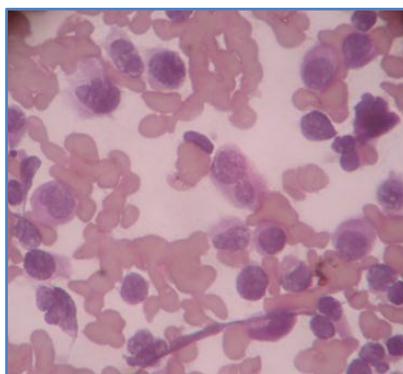


Figure 3

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Figure 4: Smear shows atypical plasma cells and multinucleated cells 400 x H & E.

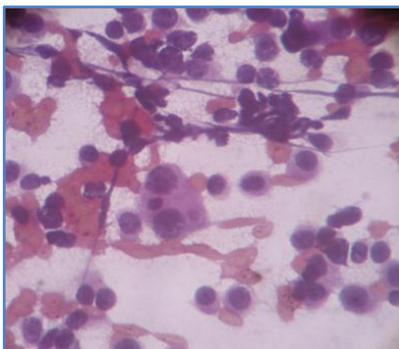


Figure 4

Figure 5: Bone marrow aspiration shows atypical plasma cells with intra nuclear inclusions 1000x Leishman's stain.

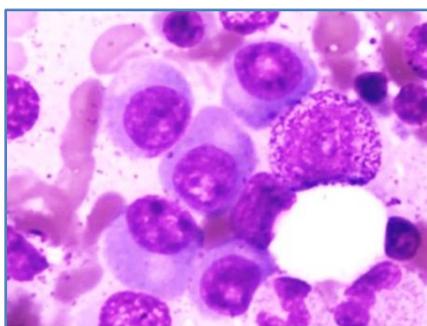


Figure 5

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