

## Multiple Myeloma Presenting as a Clavicular Swelling – A Case Report

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### Abstract

### Case Report

Multiple myeloma (MM) is a clonal B-lymphocyte neoplasm of terminally differentiated plasma cells. The cause of multiple myeloma is unknown. Data from cloning and gene-sequencing studies strongly imply that the malignant clone in multiple myeloma arises from a late cell in B-cell development. A 63yr old male presented with the complaints of swelling in the right side of the clavicular region. Various investigation; CT scan, biochemical analysis of serum protein, and pathological studies were done. Serum electrophoresis showed an M band.

**Keywords:** Multiple myeloma, clavicular region, Serum protein, Electrophoresis

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## INTRODUCTION

Multiple myeloma (MM) is a clonal B-lymphocyte neoplasm of terminally differentiated plasma cells. It accounts for approximately 1% of all malignant diseases and represents about 10% of hematologic malignancies. The annual incidence of newly diagnosed cases is three to four per 100,000 populations per year, with an estimated 14,000 new cases each year. The median age at diagnosis is 65 years, and about 3% of patients are younger than 40 years. The disease has a higher incidence in men and African Americans. The cause of multiple myeloma is unknown.

Radiation exposure increases the risk, as evidenced by a higher than expected rate of disease in atomic bomb survivors, radiation workers, and post-irradiated patients with ankylosing spondylitis. The origin of the malignant plasma cell remains a mystery. Data from cloning and gene-sequencing studies strongly imply that the malignant clone in multiple myeloma arises from a late cell in B-cell development.

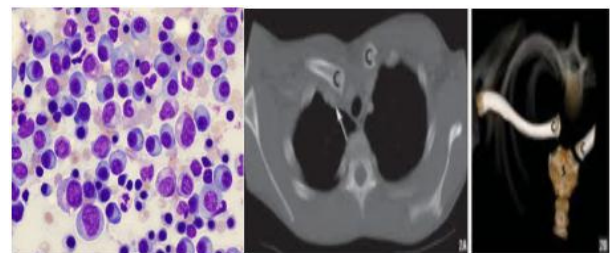
## CASE REPORT

A 63yr old male presented with the complaints of swelling in the right side of the clavicular region since 1year. The swelling is small in size and was associated with pain. Later it gradually increased in size and not associated with pain. He has a history of chronic kidney disease and no past history of Tuberculosis. On

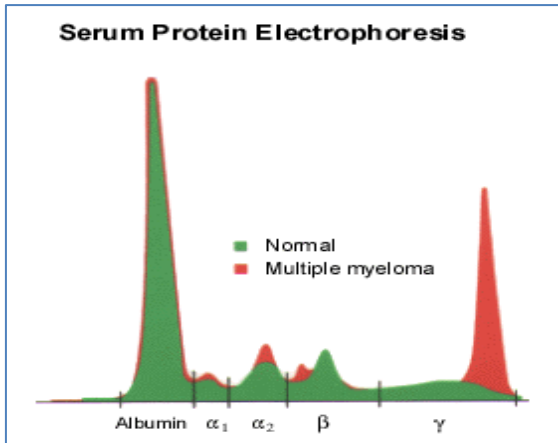
examination size of the swelling 5x3cm noted in right medial end of clavicle.

## INVESTIGATIONS

CT scan showed destruction of medial end of the right clavicle with adjacent soft tissue. Lytic lesions proved to be plasmacytoma.



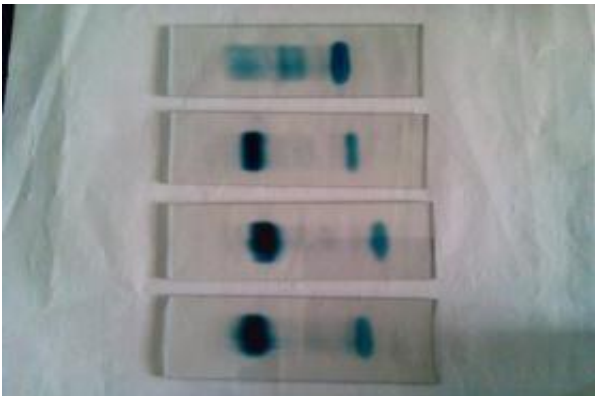
FNAC report revealed plasma cells rich infiltration with few binucleated forms suggestive of plasma cell myeloma.



#### Biochemical investigations

1. Serum total protein- 7.6gm/dl
2. Serum albumin- 2.4gm/dl
3. Globulins- 5.2gm/dl
4. Serum creatinine- 1.3 mg/dl.

Serum agarose gel electrophoresis was done which showed the characteristic 'M' band in the  $\gamma$  region.



## STAGING

### Stage I

Serum beta-2 microglobulin is less than 3.5 (mg/L) and the albumin level is above 3.5 (g/L)

### Stage II

Neither stage I nor III, meaning that either: The beta-2 microglobulin level is between 3.5 and 5.5 (with any albumin level), OR the albumin is below 3.5 while the beta-2 microglobulin is less than 3.5

### Stage III

Serum beta-2 microglobulin is greater than 5.5.

## CONCLUSION

Serum electrophoresis can be routinely used for the diagnosis of multiple myeloma and is well correlated with biochemical, radiological and pathological findings. Based on the investigations and the electrophoretic pattern this is a case of multiple myeloma presenting as a clavicular swelling.

## COMPLIANCE WITH ETHICAL STANDARDS

The author(s) declare(s) that there is no conflict of interest regarding the publication of this article.

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