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Multiple Myeloma Diagnosis After Pathological Fracture of Femur

Gjon Komani MD[1], Shpat Rrusta MD[1], Fitim Gashi MD[1], Erkan Krasniqi MD[1], Aferdita Ukimeraj MD[1] and Vjosa Krasniqi MD[1]
1. University clinical center of Kosovo, Prishtina, Republic of Kosovo

INTRODUCTION

Multiple Myeloma (MM) is a clonal B-cell malignancy characterized by proliferation of plasma cells that accumulate mainly within bone marrow (BM) and usually secrete monoclonal immunoglobulin or immunoglobulin light chain.

MM may be associated with BM failure, hypercalcaemia, renal impairment, lytic bone lesions, diffuse osteoporosis or pathological fracture and hypogammaglobulinaemia.

Treatment of MM includes pain control, treatment of bone disease, management of renal failure, treatment of infections and anemia.

Specific treatment includes chemotherapy and autologous stem cell transplantation (ASCT).

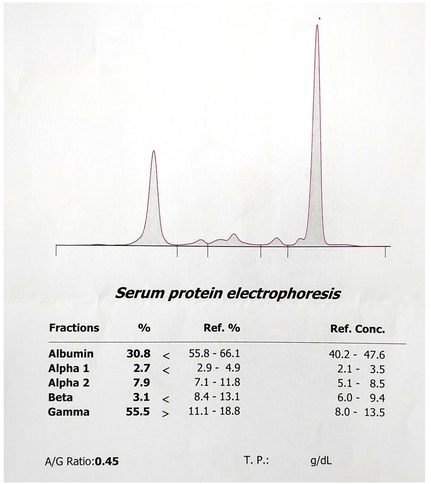
AIM

The aim of the study is to evaluate the clinical presentation of Multiple Myeloma and to better understand the treatment options for the disease.

CASE PRESENTATION

The data was collected from the patient files in the Hematology Clinic of the University Clinical Center of Kosovo. The main outcome measure was chemotherapy treatment results.

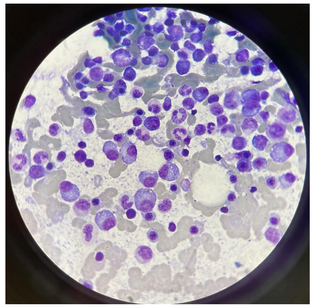
A male patient, age 70, presented to the ER with a fracture of the diaphysis of the right femur after a fall. During osteosynthesis surgery, a bone fragment was sent for histopathological and immunohistochemical analysis, and MM was diagnosed. Laboratory results: ESR, 98 mm/h; WBC, 6.3 x 1000/mm^3; RBC, 3.65 x 1,000,000/mm^3; Hb, 10.7 g/dL; Hct, 35.6%; Plt: 133 x 1,000/mm^3. Metabolic panel: urea, 6.94mmol/L; creatinine, 121.8 µmol/L; total protein, 116.7 g/L; albumin, 29.9 g/L; LDH, 135 U/L; CRP, 3.1 mg/L. Serum protein electrophoresis: M peak. Immunoglobulins: IgG, 5.47 g/L; IgM, 0.08 g/L; IgA, 0.10 g/L; kappa, 0.7 g/L; lambda, 0.08 g/L. Additional measures: calcium, 2.66 mmol/L and beta-2-microglobulin, 6.26 g/L. Bone marrow aspirate showed plasma cell infiltration around 40%. Skull x-ray found osteolytic lesions. International staging system was stage III.

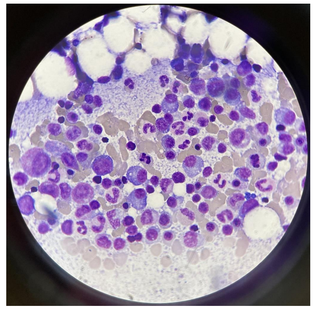


Serum protein electrophoresis

Fractions	%		Ref. %	Ref. Conc.
Albumin	**30.8**	<	55.8 - 66.1	40.2 - 47.6
Alpha 1	**2.7**	<	2.9 - 4.9	2.1 - 3.5
Alpha 2	**7.9**		7.1 - 11.8	5.1 - 8.5
Beta	**3.1**	<	8.4 - 13.1	6.0 - 9.4
Gamma	**55.5**	>	11.1 - 18.8	8.0 - 13.5

A/G Ratio:**0.45** T. P.: g/dL





CONCLUSIONS

Internal osteosynthesis of the femur diaphysis fracture was realized. The patient was treated with chemotherapy on the bortezomib, cyclophosphamide, and dexamethasone (VCD or CyBorD) protocol for 8 cycles. He is now on maintenance therapy with bortezomib every 2 weeks.



REFERENCES

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