http://jmscr.igmpublication.org/home/
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossref DOI: https://dx.doi.org/10.18535/jmscr/v8i2.57

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Original Article

Multiple Myeloma: Typical presentation in JLNMCH, Bhagalpur

Authors
Dr Abilesh Kumar[1], Dr Sudhanshu Shekhar Jha[2], Dr Praveen Suresh Jadhav[3*], Dr Kundan Anand[4], Dr Kunal[5]
MD (Internal Medicine), FICP, Associate Professor, Post-Graduate Medicine Department, JLNMCH, Bhagalpur, Bihar
[2,3,4,5]MD (Internal Medicine P.G. Student), Post-Graduate Medicine Department, JLNMCH, Bhagalpur, Bihar, India
*Corresponding Author
Dr Praveen Suresh Jadhav

Abstract
Aim: *To Study the Multiple Myeloma & Its Features, Diagnosed in JLNMCH, Bhagalpur*
Methods & Materials: *Blood, X-rays, Serum Electrophoresis, Urine Examination, Bone Marrow Examinatiousg, & Others.*
Conclusion: *Plasma Cell Neoplasm of Intermediate to Immature Differenciation. Serum Beta-2 Microglobulin Level is Extremely High. Serum Protein Electrophoresis S/O "M B and" (2.40 gms %) Seen in Beta -1 Region. Immunofixation (Serum Nephelometry) S/O High Serum IgA Level. Free Kappa (Light Chain), Serum by Nephelometry is high. Monoclonal Gammopathy seen in IgA and Kappa Region with separate band seen in Kappa Region .Multiple Punched Out Lesions Seen On Lateral View of Skull X ray. Homogenous Opacity Located in Right Middle and Lower Zone S/O Consolidation on CXR.*

Background

Multiple myeloma is a plasma cell disorder with malignant origin with a worldwide incidence of 6–7 cases per 100 000 persons per year. Multiple myeloma is characterized by proliferation of plasma cells in the bone marrow & accompanied by the secretion of monoclonal immunoglobulins in the serum or urine. Because of the advances and patho-physiological understanding of the disease it is possible to make certain drugs available for its treatment Together with autologous stem cell transplantation and advances in supportive care, the use of novel drugs such as proteasome inhibitors and immunomodulatory drugs has increased response rates and survival substantially in the past several years. Multiple myeloma has many atypical presentations but the typical presentation and features are not so much rare as in this article too.

Case Details: 76 y old male XXY patient, residing at katauria, BAKA
Came with c/o

- Back pain since 1 yr
- Giddiness since 6 month
- Weakness since 6 month
- Breathlessness since 8 days

No h/o any other bone or joint pain

H/O Present Illness

Pt was suffering from back pain since one yr f/b giddiness & weakness since 6 month for which pt taken treatment from local doctors & got relief. Recently pt developed breathlessness since 8 days which was gradually increasing till the day of admission & relieved on treatment.

Past h/o &Family h/o & Drug & allergic h/o:nad

On general examination:

Pt vitals are stable, he is conscious co-operative w.o.t. time, place & person, afebrile, no e/oedema bone pain, pallor, icterus, clubbing & lymphadenopathy.

Systemic examination appers normal except the air entry abnormal on both sides of chest.

Investigations:

Blood:

Hb:6.71 gm/dl;CBC:4600 CELLS/Cumm, PLATELET COUNT:1.42 lakhs/cumm,

RBS:361.20 mg/dl

SR. SODIUM: 126.30mmol/L; SR. POTASSIUM:3.44 mmol/L

SR. CREATININE: 2.67 mg/dl

TSH:1.15microIU/ml

SR.CALCIUM: 7.8 SR. ALBUMIN: 3.5

Blood examination positive points

Anemia

Dyselectrolytemia

Diabetes

Renal compromise

Urine Examination: Reveals normal findings except protein ++

USG W/A: Cholelithiasis, enlarged prostate and hepatomegaly

Bone Marrow Examination

Peripheral Blood Smear: DLC on PBS:

Polymorphs: 00%; lymphocytes:29%; Eosinophils:01%; Monocytes:03%;

Red cells are normocytic normochromic with fair number of macrocytes. Red cells show rouleux formation, Platelets are low normal.

Bone Marrow Aspirate: DLC ONBMA

Promyelocytes: 00%; Myelocytes: 08%; Metamyelocytes: 04%; Polymorphs and band forms:11%

Lymphocytes: 02%; Plasma cells: 65%; Erythroid cells:10%

Bone marrow is hypercellular with M:E ratio of 2.3:1. Marrow is replaced by sheets of plasma cells which are of intermediate differentiation with few immature plasma cells. Cytoplasm is filled with crystalline inclusions. Few binucleated & occasional multi nucleated plasma cells are present. Myeloid & Erythroid precursors are diminished. Few functional megakaryocytes are present.

Impression: S/O Plasma Cell Neoplasm of Intermediate to Immature Differenciation.

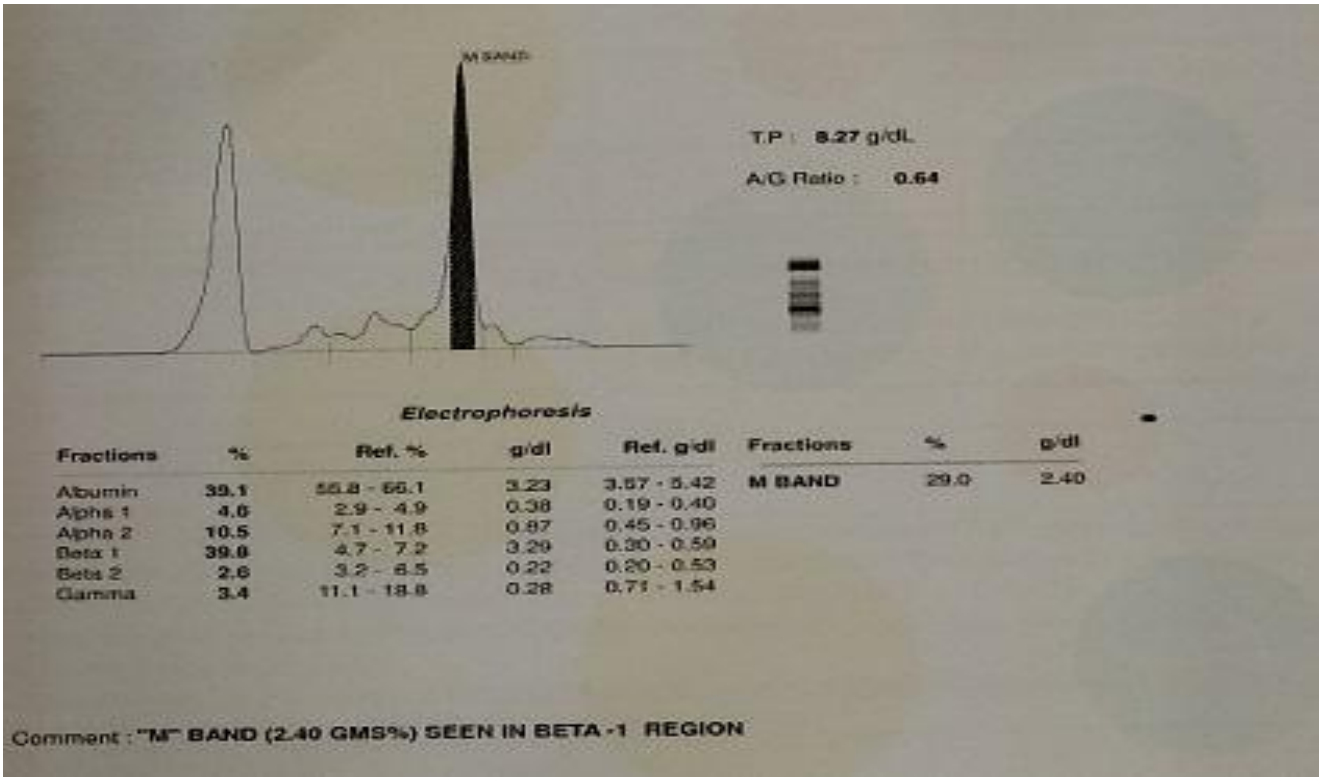
Comprehensive Myeloma Protein Panel

Serum Beta-2 microglobulin level (serum by CLIA):----12569.00 ng/ml

[Ref:670 to 2143]

Serum Protein Electrophoresis: [Biological Ref. Interval]

Serum Total proteins: 8.27 g/dl	6.2 – 8.1
Serum Albumin: 3.23g/dl	3.57 -5.42
Alpha 1 Globulin: 0.38 g/dl	0.19 – 0.40
Alpha 2 Globulin: 0.87 g/dl	0.45 – 0.96
Beta 1 Globulin: 3.29 g/dl	0.30 – 0.59
Beta 2 Globulin: 0.22 g/dl	0.20 – 0.53
Gamma Globulin: 0.28g/dl	0.71 – 1.54
Albumin: Globulin Ratio: 0.64 g/dl	1.1 – 2.2
M BAND: PRESENT	
Comment: M Band (2.40 GMS%) Seen In Beta -1 Region	



Immunofixation: (Serum Nephelometry)

[Quantitative Serum Immunoglo Bulin Profile]: [Biological Ref. Interval]

Serum IgG Level By Nephelometry:	419.00 mg/dl	700 -1600
Serum IgA Level By Nephelometry:	3100.00 mg/dl	70-400
Serum IgM Level By Nephelometry:	13 .70 mg/dl	40-230

Kappa And Lambda –Free Light Chain (Serum): [Biological Ref. Interval]

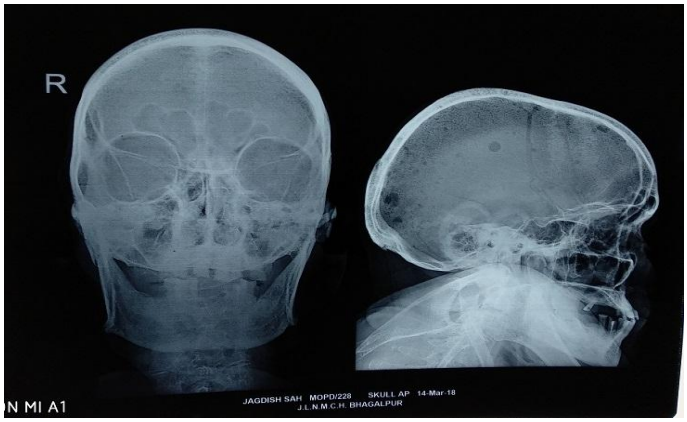
Free Kappa (Light Chain), Serum by Nephelometry	>16100.00 mg/L	3.3 – 19.4
Free Lambda (Light Chain), Serum By Nephelometry	11.40 mg/L	5.71-26.3
Free Kappa/Lambda Ratio		0.26 – 1.65
(In Renal Impairment, Suggested Reference Interval: 0.37-3.1)		

Electrophoretic Zone

Electrophoretic Zone	Observed Value
IgG	Absent
IgM	Absent
IgA	Present
Kappapresent (Wo Bands Present)	
Lambda	Absent
M-Band	Present
Impression: Monoclonal Gammopathy Seen Iin IgA and Kappa Region with Separate Band Seen in Kappa Region	

X Ray Imaging

Skull X-Ray



Comment

Multiple punched out lesions seen on lateral view of skull x ray

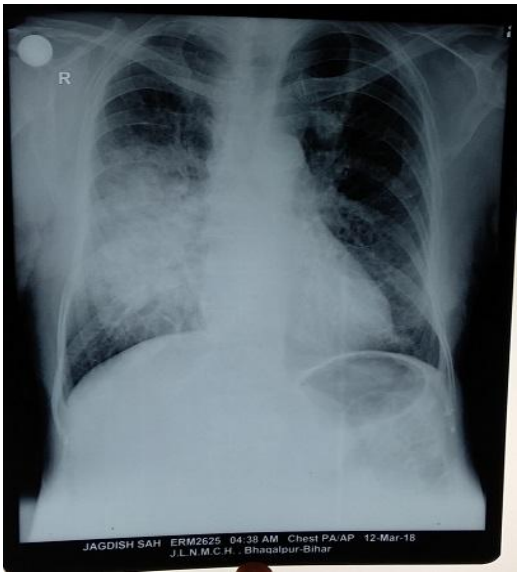
Spinal & Pelvis X Rays

Cervical, dorsal, lumbar& pelvis x-rays are normal (No lytic lesion seen).

CXR

Comment

Homogenous opacity located in right middle and lower zone s/o consolidation



Treatment

Immunosuppresive drugs like thalidomide 200mg/d, prednisolone 40 mg/wk, bortezomib 2mg/fort night. Iron & calcium supplimentation & antibiotic for infection.

Conclusion

1) Bone Marrow Examination Picture S/O Plasma Cell Neoplasm of Intermediate to Immature Differentiation.
2) Serum Beta-2 Microglobulin Level (Serum by Clia) is Extremely High.
3) Serum Protein Electrophoresis S/O "M Band" (2.40 Gms%) Seen in Beta -1 Region
4) Immunofixation (Serum Nephelometry) S/O High Serum Iga Level
5) Free Kappa (Light Chain), Serum By Nephelometry Is High.
6) Electrophoretic Zone: Monoclonal Gammopathy Seen in IgA and Kappa Region with Separate Band Seen In Kappa Region.
7) Multiple Punched Out Lesions Seen on Lateral view of Skull X Ray
8) Homogenous Opacity Located in Right Middle and Lower Zone S/O Consolidation on CXR.

No Grants
No Conflict of Interest

References

1. McCarthy PL, Owzar K, Hofmeister CC, et al.: Lenalidomide after stem-cell transplantation for multiple myeloma. N Engl J Med 2012; 366: 1770–81.
2. Badros A, Barlogie B, Siegel E, et al.: Autologous stem cell transplantation in elderly multiple myeloma patients over the age of 70 years. Br J Haematol 2001; 114: 600–7.
3. Palumbo A, Bringhen S, Mateos MV, et al.: Geriatric assessment predicts survival and toxicities in elderly myeloma patients: an International Myeloma Working Group report. Blood 2015; 125:2068–74.
4. Facon T, Mary JY, Hulin C, et al.: Melphalan and prednisone plus thalidomide versus melphalan and prednisone alone or reduced intensity

autologous stem cell transplantation in elderly patients with multiple myeloma (IFM 99–06): a randomised trial. Lancet 2007; 370: 1209–18.

5. San Miguel JF, Schlag R, Khuageva NK, et al.: Bortezomib plus melphalan and prednisone for initial treatment of multiple myeloma. N Engl J Med 2008; 359: 906–17.
6. Benboubker L, Dimopoulos MA, Dispenzieri A, et al.: Lenalidomide and dexamethasone in transplant-ineligible patients with myeloma.N Engl J Med 2014; 371: 906–17.
7. Bladé J, Rosiñol L, Fernández de Larrea C: How I treat relapsed myeloma. Blood 2015; 125: 1532–40.
8. Richardson PG, Sonneveld P, Schuster MW, et al.: Assessment of Proteasome Inhibition for Extending Remissions (APEX) Investigators. Bortezomib or high-dose dexamethasone for relapsed multiple myeloma. N Engl J Med 2005; 352: 2487–98.
9. Rodon P, Hulin C, Pegourie B, et al.: Phase II study of bendamu - stine, bortezomib and dexamethasone as second-line treatment for elderly patients with multiple myeloma: the Intergroupe Franco - phone du Myelome 2009–01 trial. Haematologica 2015; 100:e56–9.
10. Knopf KB, Duh MS, Lafeuille MH, et al.: Meta-analysis of the efficacy and safety of bortezomib re-treatment in patients with multiple myeloma. Clin Lymphoma Myeloma Leuk 2014; 14: 380–8.
11. Dimopoulos MA, Chen C, Spencer A, et al.: Long-term follow-up on overall survival from the MM-009 and MM-010 phase III trials of lenalidomide plus dexamethasone in patients with relapsed or refractory multiple myeloma. Leukemia 2009; 23: 2147–52
12. San Miguel J, Weisel K, Moreau P, et al.: Pomalidomide plus low-dose dexamethasone versus high-dose dexamethasone alone for patients with relapsed and refractory multiple myeloma (MM-003): a randomised, open-label, phase 3 trial. Lancet Oncol 2013; 14: 1055–66.
13. Lonial S, Dimopoulos M, Palumbo A, et al.: Elotuzumab therapy for Relapsed or refractory multiple myeloma. N Engl J Med. 2015; 373: 621–31.
14. San-Miguel JF, Hungria VT, Yoon SS, et al.: Panobinostat plus bortezomib and dexamethasone versus placebo plus bortezomib and dexamethasone in patients with relapsed or relapsed and refractory multiple myeloma: a multicentre, randomised, double blind phase 3 trial. Lancet Oncol 2014; 15: 1195–206.
15. Leitlinienprogramm Onkologie (Deutsche Krebsgesellschaft, Deutsche Krebshilfe, AWMF): Palliativmedizinfür Patientenmiteinernicht heilbaren Krebserkrankung, Kurzversion 1.1, 2015, AWMF- Registernummer: 128/001OL.http://leitlinienprogramm-onkologie.de/Palliativmedizin. 80.0.html (last accessd on 26 February 2016).
16. Ludwig H, Miguel JS, Dimopoulos MA, et al.: International Myeloma Working Group recommendations for global myeloma care. Leukemia 2014; 28: 981–92.