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Original Research Paper

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IMMUNOGLOBULIN SUBTYPES OF MYELOMA AT HOMIBHABHA CANCER HOSPITAL & RESEARCH CENTER VISAKHAPATNAM

Dr. Narayana Rao Bankuru

Rahul Ravi*

*Corresponding Author

ABSTRACT Myeloma is a cancer of the plasma cells in bone marrow. Myeloma also called as multiple myeloma and plasma cell myeloma. The plasma cells or myeloma cells accumulate in the bone marrow causes bone destruction and paraprotien formation. The present study is observational data from the 50 patients of clinically established myeloma .All patients serum samples analyses through SAS-MX IFE kits for detection of monoclonal gammapathies. Myeloma is disease of older adults median age 65 yrs is concordance with the present analysis of the data. Males are higher prevalence than females is correlate with other studies on multiple myeloma. Detailed analysis of the present data of the myeloma patients paraprotien is IgG(82%),IgA(10%),IgM(2%),Light chain only(6%).

KEYWORDS : Myeloma, Immunofixation electrophoresis, Light chains

INTRODUCTION:

Myeloma is a cancer of the plasma cells in bone marrow. Myeloma also called as multiple myeloma and plasma cell myeloma. The plasma cells or myeloma cells accumulate in the bone marrow causes bone destruction and paraprotien formation. The uncontrolled production of paraprotien causes plasma hyper viscosity, renal insufficiency and anemia. The paraprotien (monoclonal protein) is an immunoglobulin or component/fragment of immunoglobulin. The diagnosis of myeloma is the finding of paraprotien on serum protein electrophoresis (PEP) or immunofixation electrophoresis (IFE).The type of monoclonal protein produced varies from patient to patient .the most common monoclonal protein is IgG and the least common is IgE. The following study at homibhabha cancer hospital &research centre is retrospective analysis of immunofixation electrophoresis data.

MATERIAL AND METHODS

The present study is observational data from the 50 patients of clinically established myeloma .All patients serum samples analyses through SAS-MX IFE kits for detection of monoclonal gammapathies.The abnormal monoclonal protein identified by antisera type it reacts with. The monoclonal protein band on the immunofixation pattern will occupy the same position and shape as the abnormal band on the serum protein pattern. All patients are diagnosed as myeloma with protein electrophoresis and bone marrow biopsy. The types of myeloma based on heavy chain of immunoglobulin (IgG,IgA,IgM) and light chains(Kappa,Lamda) detected by immunofixation electrophoresis.

RESULTS:

Results are analyzed with age and sex distribution using with simple tabular form given below.

Total patients-50

Table: 1

Age	numbers
30 – 40 Yrs	3
41 – 50 Yrs	3
51 – 60 Yrs	15
61 – 70 Yrs	21
>70 Yrs	8

Table: 2

SEX	Numbers
Females	18
Males	32

The percentages of immunoglobulin subtypes are shown in below table

Table: 3

Type of myeloma			Total	percentage
IgG	Kappa	30	41	82%
	Lambda	11		
IgA	Kappa	2	5	10%
	Lambda	3		
IgM	Kappa	0	1	2%
	Lambda	1		
Light chain only	Kappa	0	3	6%
	Lambda	3		

DISCUSSION AND CONCLUSIONS:

Myeloma is disease of older adults median age 65 yrs is concordance with the present analysis of the data. Males are higher prevalence than females is correlate with other studies on multiple myeloma. Only 3% of myeloma patients are under the age of 40 years. Detailed analysis of the present data of the myeloma patients paraprotien is IgG(82%), IgA(10%), IgM(2%), Light chain only(6%).The distribution of above immunoglobulin types of myeloma are different with other studies. Studies from various other places are IgG(56%),IgA(24%),Light chains only(16%) and others 2%(Kyle et al,2003).All light chain disease are lambda light chain only. IgG kappa gammapathies are most common among all IgG subtype.

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3. HUONG YEW TING PAVAI STHANESHWAR PING CHONG BEE HEMALATHA SHANMUGAM MERRELL LIM ,1Laboratory Medicine Division, Department of Pathology, University Malaya, Malaysia;2Department of Medicine (Haematology), University Malaya, Malaysia; 3Medical Science Liaison, The Binding Site, Singapore