

Manipal Academy of Higher Education

Impressions@MAHE

Kasturba Medical College, Mangalore Theses
and Dissertations

MAHE Student Work

Summer 8-1-2021

Analytical correlation of laboratory tests with clinical findings in cases of paraproteinemia

Emilin Zacharias

Follow this and additional works at: <https://impressions.manipal.edu/kmcmr>



Part of the [Medicine and Health Sciences Commons](#)

Analytical correlation of laboratory tests with clinical findings in cases of paraproteinemia

Abstract

Multiple myeloma is a malignant plasma cell disorder identified with M spike on serum protein electrophoresis (SPE) during routine laboratory workup. This study is aimed to analyse the utility of laboratory tests such as (SPE), immunofixation electrophoresis (IFE), CBC, RFT, LFT, calcium, phosphorus, beta 2 microglobulins, LDH, serum-free light chain assay (SFLC) Bence Jones Proteinuria (BJP), BM biopsy, BM smear and radiological evidence for lytic lesions in cases of paraproteinemia. Data for the above parameters from 2017 January to 2021 March were obtained from the data management system of the central lab. Biochemical parameters were correlated with M spike value using Karl Pearson's correlation coefficient (P-value <0.05 will be significant.). 7.7% SPE reports had M spike with a mean age of 64 years in males and 63 years in females (male/female ratio, 1: 0.76). M spike showed a significant positive association with total protein, globulin, and uric acid and negative association with albumin. IFE report of 39 patients had IgG kappa type. The common presentation from hematological data was normocytic normochromic anemia with occasional rouleaux formation. Osteolytic lesion was present in 86% of reported cases. Associated biochemical, hematological, and radiological correlates of the positive cases could be documented in only less than 20% of the positive cases. Ours is a tertiary care hospital and the associated lab is also a reference lab where samples from in and around the city are tested. After the preliminary SPE, it could be possible that the patients were further evaluated and continued treatment at some other facility.

Keywords

Immunofixation electrophoresis, M spike, Multiple myeloma, Serum protein electrophoresis