

Biochemical investigation - diagnostic tools of multiple myeloma

Authors:

**Muthukumar N¹,
John De Britto A², Harry
Thomas Rodriquez A³,
Rekha Sunder⁴**

Institution:

1. Associate Professor,
Department of Pharmaceutical
Biotechnology, Chilkur Balaji
College of Pharmacy,
Hyderabad.

2. Associate Professor,
Department of Botany,
St. Xaviers College,
Tirunelveli.

3. Research Scholar,
Department of Botany,
St. Xaviers College,
Tirunelveli.

4. Assistant Professor,
Department of Pharmacology,
Chilkur Balaji College of
Pharmacy, Hyderabad.

Corresponding author:

Muthukumar N

ABSTRACT:

In this study biochemical technique was used as supportive tool for early diagnosis of multiple myeloma suspected cases. Samples of suspected cases were collected from histopathological diagnostic center. Serum calcium, serum albumin and Total protein were estimated. Bence jones protein was estimated in urine sample. Gel Electrophoresis was employed to resolve serum protein according to their molecular weight. The serum calcium level was very high (14.9 – 18mg/dl) than normal (9 - 11mg/dl). When compared to normal serum albumin value, the test serum albumin level was decreased (2.7 – 3.2mg/dl). The total protein was increased because of the accumulation of para protein in blood stream. Light chain of immunoglobulins found as bence jones protein in the urine sample. The gel electrophoresis image revealed that the intensity of monoclonal protein ('M' Protein) was higher than other separated bands. The results suggested that this low cost biochemical technique may be used for the diagnostic purpose of Multiple myeloma at the earlier stage.

Keywords:

Multiple myeloma, Biochemical investigation and Bence jones proteins.