

Detecting Only Light Chains, Now What?

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CASE DESCRIPTION

A 71-year-old woman presented with low back pain and arthralgia of the knees and shoulders. Routine skeletal films demonstrated several lytic bone lesions suggestive of multiple myeloma. A sample of bone-marrow aspirate revealed 24% plasma cells. Serum protein electrophoresis was performed for M-protein detection and quantification, and showed a clear monoclonal band (Fig. 1, left). Immunofixation to type the M-protein revealed a λ band with no corresponding IgG, IgA, or IgM heavy chains (Fig. 1, right).

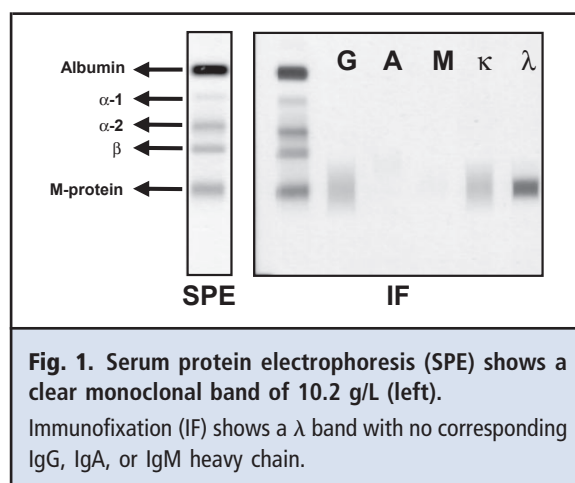


Fig. 1. Serum protein electrophoresis (SPE) shows a clear monoclonal band of 10.2 g/L (left).

Immunofixation (IF) shows a λ band with no corresponding IgG, IgA, or IgM heavy chain.

QUESTIONS

1. Can the diagnosis of multiple myeloma in this patient be made without diagnostic evidence of both a heavy- and light-chain monoclonal protein in the serum?
2. Can you type the monoclonal gammopathy based on this immunofixation? If not, what more needs to be done?

The answers are below.

ANSWERS

The bone lesions and >10% bone marrow clonal plasma cells confirm the diagnosis of symptomatic multiple myeloma (1). It is therefore possible to diagnose multiple myeloma without M-protein investigation. M-protein analysis is important, however, because it affects treatment, monitoring, and prognosis. Immunofixation does not enable the clinician to distinguish between light-chain myeloma and a myeloma with an intact IgD or IgE M-protein. Separate reagents to specifically detect IgD,

IgE, and free light chains showed that our patient had an IgE myeloma, a rare myeloma subtype (2).

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