

Challenges with Serum Protein Electrophoresis in Assessing Progression and Clinical Response

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Accurate determination of the IgM paraprotein concentration is crucial to evaluating response in patients with Waldenström's Macroglobulinemia. In our clinical laboratories, M-spike quantitation is performed by Serum Protein Electrophoresis (SPEP), the same method used to quantitate IgG paraproteins in patients with Multiple Myeloma. However, the migration pattern and propensity of IgM paraproteins to form higher-order complexes in serum makes laboratory evaluation of samples from Waldenström's patients especially challenging. Additionally, preanalytical variables such as hemolysis can affect M-spike quantitation. We will review examples of patients whose IgM paraprotein is particularly ill-suited to M-spike quantitation by SPEP. In these and similar cases, a method other than M-spike quantitation, such as IgM heavy chain nephelometry, should be considered in laboratory evaluation of paraprotein concentration.