Commentary

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When was the last time you saw a case of α heavy chain disease, one that was confirmed by rigorous immunochemical methods? For me, it was never. But I have seen several cases of IgA and IgD M-proteins in which demonstration of the light-chain component required additional studies beyond the initial immunofixation. The authors of the present case use the conundrum posed by finding a faint α chain band with undetectable light chains on immunofixation to caution readers about overinterpreting this pattern as α heavy chain disease, a gastroenterological condition of young adults that is vanishingly rare in the US.

The need to coax emergence of reluctant light chains from their cloak within an intact paraprotein molecule is not a new problem. As early as 1966, Osterland and Chaplin reported an IgA M-protein in which identification of the light chain required starch gel electrophoresis under acid conditions, or reduction and alkylation followed by chromatographic studies *(1)*. Netto and Vladutiu used immunoselection for the light-chain identification in such a case and noted this problem occurs more often with IgA and IgD M-proteins than with other isotypes *(2)*.

The current authors have launched mass spectrometry as the newest and most sensitive method to rule out the presence of free α heavy chains by unmasking the identity of hidden light chains. The impressive resolution of their mass spectrometry not only disclosed the true nature of the small intact IgA λ β-region band, it also confirmed 2 IgG κ bands with discrete mass to charge ratios in which the immunofixation pattern seemed to merge them into a single band.

To deal with absent light chains on immunofixation, they advise the following: evaluate the history, check the dilutions, try a reducing agent, perhaps another reagent antisera, and even consider deploying mass spectrometry.

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Received April 6, 2017; accepted April 25, 2017.
DOI: 10.1373/clinchem.2017.273086

Author Contributions: *All authors confirmed they have contributed to the intellectual content of this paper and have met the following 3 requirements: (a) significant contributions to the conception and design, acquisition of data, or analysis and interpretation of data; (b) drafting or revising the article for intellectual content; and (c) final approval of the published article.*

Authors' Disclosures or Potential Conflicts of Interest: *No authors declared any potential conflicts of interest.*

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