We believe that this may not be the case. ICE was not intended to replace these techniques but to supplement them. Our own survey (soon to be submitted for publication) concludes that ICE has the potential to replace about 90% of IEP/IFE testing. The savings in reagents and time are, we believe, substantial.

In addition, our survey—on a larger population (350 samples)—shows a much lower proportion of "false negatives"—that is, paraproteins with normal kappa:lambda ratios. They (1) state that of 29 samples with abnormal kappa:lambda ratios, only 19 were correctly identified. However, they fail to state by what criteria they arrive at this figure. Using a derived equation, it is possible to determine which heavy chain is responsible for the paraprotein in all but about 10% of cases of disturbed k:λ ratios.

In our experience, the paraproteins "not typed" by ICE are seldom of clinical importance—often being "monoclonals" of a benign nature. Interestingly, we found that ICE detected a number of sera with abnormalities that might have gone unnoticed by traditional methods. These included abnormal bands obscured by "normal" bands on SPE and the presence of free light chains, which often do not show bands on SPE, detected by the excess of light chain concentration over heavy chain (>10%).

We think that light-chain nephelometric or turbidimetric assays do have a role to play in the clinical laboratory and that their use will soon become widespread.

Reference


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