

The challenge of improving the diagnostic yield from metanephrine testing in suspected pheochromocytoma and paraganglioma

ABSTRACT

Background Plasma-free metanephrines (PFM) or urinary fractionated metanephrines (UFM) are the preferred biochemical tests for the diagnosis of pheochromocytoma and paraganglioma (PPGL). Borderline increased results should be followed up to either exclude or confirm diagnosis. **Methods** We extracted all PFM and UFM results reported by our laboratory over a six-month period from the laboratory information system. We categorized patients with borderline increased results according to whether follow-up testing had been performed as suggested in the initial laboratory report. Questionnaires were then sent to all requesting doctors and medical notes reviewed where available. **Results** Two hundred and four patients with borderline increased PFM or UFM were identified. Sixty-five (38.5%) of 169 patients with borderline increased PFM had a repeat test out of which 36 were normal and 29 did not normalize. Of 35 patients with borderline increased UFM, 17 (48.6%) had subsequent PFM measurement, out of which 15 were normal. Questionnaires were returned to 106 (52%) patients. Of these, the most frequent indication for testing was hypertension (n = 50); 15 patients had an incidental adrenal mass and two of these patients were diagnosed with a pheochromocytoma. **Conclusion** Only 38% of patients with borderline increased PFM had a repeat PFM measurement. This was not significantly higher when compared with the 28% in a previous audit that we reported in 2010 (P = 0.10). Forty-nine per cent of patients with a borderline increased UFM had a repeat UFM or PFM measurement. There remains a substantial possibility of missed detection of PPGL.

Keyword: Analytes; Catecholamines; Laboratory management; Laboratory methods