Diagnosis of pheochromocytoma on physical examination

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A 37-year-old female presented with transient episodes of acute shortness of breath and no other complaints. On admission she was found to be hypertensive (160/115 mmHg) and tachycardic (145 min) with a respiratory rate of 28 min and an oxygen saturation of 84% on room air. Pertinent findings on initial examination included bilateral crackles on auscultation and abdominal fullness in the left upper quadrant with a palpable mass percussed to be >12 cm in span. Imaging of the lung demonstrated CXR findings of diffuse interstitial oedema and on CT scan of chest she had patchy ground-glass opacities with innumerable nodules stemming from bronchoalveolar bundles (Panel A). Initial symptoms resolved within hours but were followed by repeat episodes of shortness of breath over the next 24 h associated with systolic blood pressures >200 mmHg, one of which was provoked by palpation of the abdominal mass. Clinical presentation and the unexpected finding on abdominal examination raised suspicion for a pheochromocytoma. Computed tomography scans of the abdomen and pelvis (Panels B and C) showed a large abdominal multicellular cystic mass (14.8 cm in craniocaudal dimension) in the left abdomen presumably arising from the adrenal gland. Markedly increased levels of catecholamine metabolites in blood and urine confirmed the diagnosis [plasma metanephrine >50.00 nmol/L (normal range 0.00–0.49) and plasma normetanephrine 47.10 nmol/L (normal range 0.00–0.89)]. Sixteen days after admission, the tumour was resected (Panel D), showing the histological findings of basophilic, granular cells arranged in a typical zellballen growth pattern typical of a pheochromocytoma (Panel E). Two and a half months after the patient was discharged, her vital signs and catecholamine levels normalized and the repeat CT scan showed no evidence of the tumour.

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