This 29-year-old woman had transient episodes of palpitations, dizziness, diaphoresis, and nausea without provocation for several years. There was no history of hypertension. During induction of anesthesia for an orthopedic procedure, blood pressure (BP) suddenly increased from 122/76 mm Hg to 200/130 mm Hg and heart rate increased from 76 bpm to 108 bpm. Surgery was cancelled for a medical evaluation. During the next few days, transient elevations of BP were again noted and were accompanied by her typical symptoms. Urinary excretion of VMA was 6.00 mcg/mg creatinine (normal 0.25–3.50 mcg/mg). The HVA excretion was 3.0 mcg/mg creatinine (normal 0.0–2.5 mcg/mg).

Panel A in the above illustration shows an axial breath hold T1 weighted MRA gradient echo image of the abdomen. The arrow shows a well circumscribed adrenal mass. Panel B shows
corresponding focal uptake of I-131 MIBG on anterior and posterior whole body views, confirming that the adrenal mass is a catecholamine producing tumor.

The patient was prepared for surgery with adrenergic blockade, intravenous phentolamine and esmolol. An adrenalectomy was performed by laparoscopy. Panel C shows the resected adrenal gland. Pheochromocytoma with areas of mild hemorrhage is enclosed within an attenuated adrenal cortex. The residual adrenal gland is also seen. Panel D shows the histologic pattern with normal adrenal cortex adjacent to tumors. The histologic pattern is variable with polygonal to spindle-shaped chromaffin cells, clustered with their supporting cells into small nests or alveoli (zellballen), by a rich vascular network. The histologic pattern, however, does not predict malignancy. This is based exclusively on the presence of metastases.

Laparoscopic adrenalectomy for adrenal tumors has now become available conferring the advantages over conventional surgery, via transabdominal incision, of less postoperative pain, shortened hospital convalescence, and improved cosmetic result. This patient was discharged 24 hours after surgery.

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References