

## Surgical images: soft tissue Laparoscopic resection of a renal hilar pheochromocytoma

A 21-year-old woman, weighing 121 kg, presented with blurred vision. On examination, her blood pressure was 210/160 mm Hg. The physical examination was otherwise unremarkable. She was found to have elevated urinary dopamine, normetanephrine and total metanephrine levels. Magnetic resonance imaging (Fig. 1 and Fig. 2) demonstrated a dumbbell-shaped tumour, measuring 4.0 × 3.5 × 2.6 cm, in the right renal hilum and surrounding the right renal vein. Both adrenal glands were normal. The patient underwent preoperative blockade with phenoxybenzamine, atenolol and metyrosine for 2 weeks.

Through a transperitoneal laparoscopic approach, using 4 ports and with the patient in the right flank position, the hepatic flexure of the colon was mobilized and the duodenum reflected medially to expose the right renal hilum. After circumferential dissection of the lesion with use of the harmonic scalpel, 2 separate tumours with a fibrous connection were identified (Fig. 3). The tumours were adherent to the right renal vein but were successfully resected intact (Fig. 4). The esti-

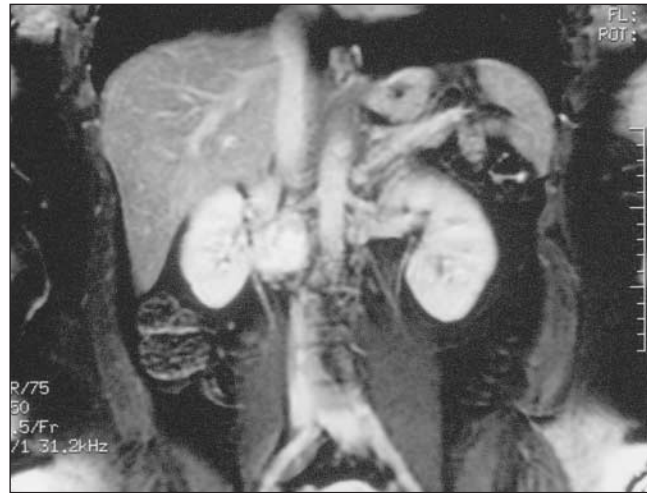


FIG. 2. Magnetic resonance image shows the dumbbell-like lesion in the region of the right renal hilum.



FIG. 1. Magnetic resonance image shows the dumbbell-like tumour surrounding the right renal vein.

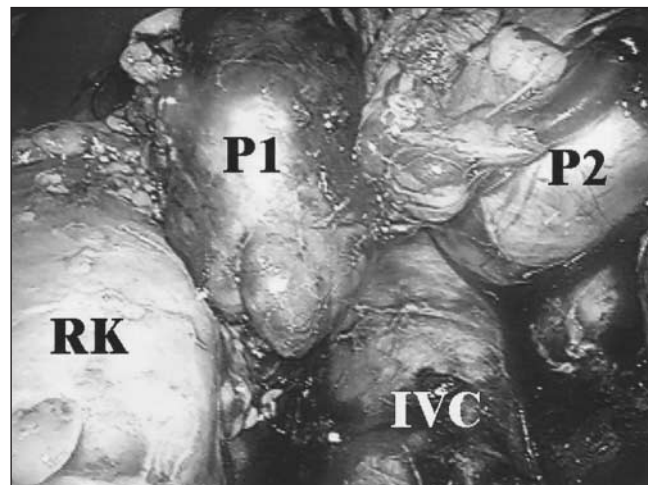


FIG. 3. Intraoperative view demonstrates 2 separate tumours (P1 and P2). RK = right kidney, IVC = inferior vena cava.

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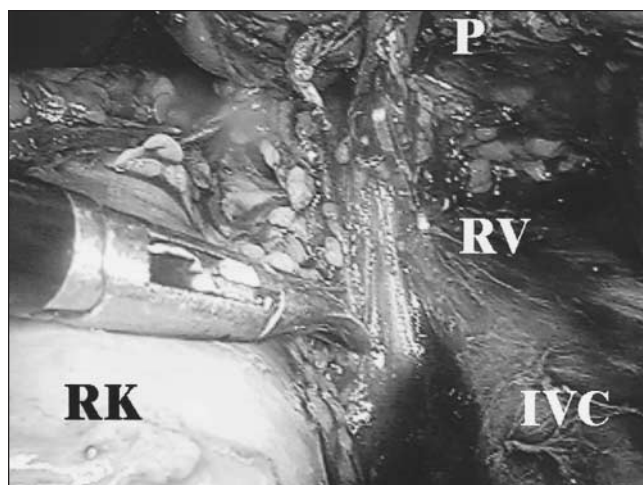


FIG. 4. Although the lesion was adherent to the right renal vein, it was removed intact. P = pheochromocytoma, RK = right kidney, RV = right renal vein, IVC = inferior vena cava.

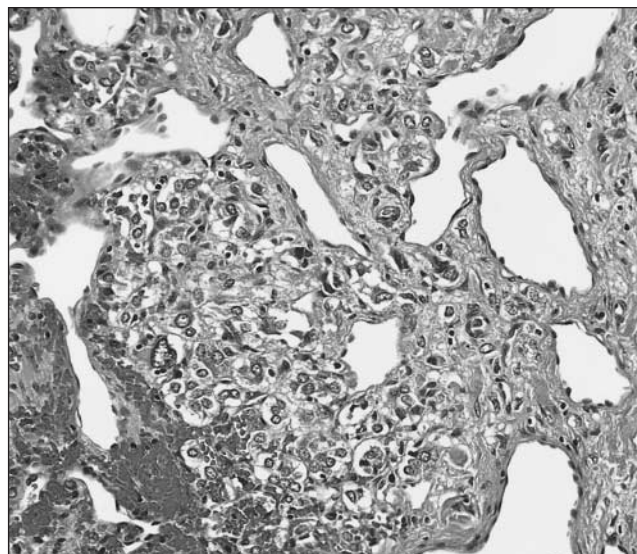


FIG. 5. Photomicrograph showing the pheochromocytoma (hematoxylin-eosin, original magnification  $\times 40$ ).

mated blood loss was 75 mL, and the operating time was 245 minutes. Pathological examination demonstrated that both tumours were pheochromocytomas and the surgical margins of the excised specimen were free of tumour involvement (Fig. 5).

The patient's postoperative recovery was uncomplicated, and at the 3-month follow-up the urinary catecholamine levels were normal.

Competing interests: None declared.

## Prescribed Reading

- Complete Book of Mother & Baby Care
- Mon bébé – je l'attends, je l'élève
- Prescription and Over-the-Counter Drugs for Canadians
- Le guide canadien des médicaments



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