

Laparoscopic excision of a large extra-adrenal perirenal myelolipoma

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Abstract

Extra-adrenal myelolipoma is a very rare type of tumour. Laparoscopic removal of extra-adrenal myelolipoma has not been previously reported. We report the first case of laparoscopic excision of a large extra-adrenal perirenal myelolipoma.

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Introduction

Myelolipoma is a relatively rare type of benign tumour composed of mature adipose tissue and hematopoietic elements that resemble bone marrow.¹ They are usually adrenal in origin; however they have been reported in several extra-adrenal locations.²⁻¹¹ The retroperitoneal presacral space is the most commonly reported location of an extra-adrenal myelolipoma (EAML).² Laparoscopic adrenalectomy is the gold standard operation to treat benign adrenal masses, including adrenal myelolipoma.¹² However, laparoscopic excision of an EAML has not previously been reported in the literature. To the best of our knowledge, this case report is the first known successful removal of an extra-adrenal perirenal myelolipoma by laparoscopy.

Case report

A 45-year-old woman presented to a county community hospital emergency department with left-sided flank and abdominal pain, dysuria, frequency and urgency. She was afebrile, but urinalysis showed pyuria and microhematuria and her white blood cell count was mildly elevated at $14.7 \times 10^9/L$. Abdominal ultrasound revealed moderate left hydronephrosis and a large left upper quadrant mass of mixed echogenicity and unknown origin. The emergency room physician treated her for a presumed pyelonephritis and arranged a computed tomography (CT) scan and urological follow-up. The CT scan confirmed a large $10 \times 7 \times 6$ cm retroperitoneal mass located anterior and inferior to the lower

pole of the left kidney (Fig. 1). The mass was fairly well circumscribed, inhomogenous and predominantly hypoattenuating, consistent with fat density. Given the size and appearance of the mass, retroperitoneal liposarcoma was the working diagnosis and a percutaneous biopsy was performed. The pathology report revealed trilineage hematopoiesis, consistent with either a possible myelolipoma or extramedullary hematopoiesis. Staging was negative and informed consent was obtained for laparoscopic excision of retroperitoneal tumour.

The tumour was removed using a transperitoneal laparoscopic approach with the patient in the right lateral decubitus position. After mobilizing the large intestine and entering the retroperitoneum, the tumour was identified immediately anterior to the iliopsoas muscles, inferior to the lower pole of the kidney and lateral to the ureter and gonadal vessels. The tumour was carefully dissected free of these structures and was extracted intact with grossly clear margins and no residual tumour. Operative time was 230 minutes and there were no intraoperative complications. Her postoperative course was complicated by mild pulmonary edema and a superficial wound infection. Gross examination of the tumour revealed an encapsulated and slightly lobulated soft tissue mass measuring $9.0 \times 6.4 \times 5.5$ cm in greatest dimensions (Fig. 2). The tumour was tan to dark brown in colour and was surrounded by a rim of adipose tissue. Microscopy revealed a soft tissue tumour composed of mature adipose tissue and mature trilineage hematopoietic elements, which established the diagnosis of myelolipoma. There was no cytologic atypia. After more than 2 years follow-up, she remains clinically well and a CT scan showed resolution of hydronephrosis and no residual tumour (Fig. 3).

Discussion

Myelolipomas are usually adrenal in origin. However they have been reported in several extra-adrenal locations, including the presacral space,² perirenal space,³ renal sinus,⁴ renal hilum,⁵ paravesical space,⁶ spleen,⁷ lung,⁸ mediastinum,⁹



Fig. 1. Preoperative computed tomography scan showing the 10-cm left retroperitoneal tumour.



Fig. 2. Gross pathologic specimen.

mandible¹⁰ and retroorbital region.¹¹ Arzanian and colleagues reported the first case of “generalized myelolipoma” that involved a 6-year-old girl with myelolipomas of her abdomen, pelvis, chest and retro-orbital region.¹¹ Less than 50 EAML cases have been reported to date^{2,5} and more than half of them have occurred in the retroperitoneal presacral space.²

Laparoscopic excision of adrenal myelolipoma is well-established.¹² Lucioni and colleagues¹³ described laparoscopic management of 2 perinephric adipose-containing lesions: a liposarcoma and a case of fibrosis with chronic lipomatous inflammation. However, laparoscopic removal of an extra-adrenal myelolipoma has not been previously published. This case, the first successful laparoscopic removal of EAML, illustrates that laparoscopic excision of a large EAML is feasible and can be done safely.

Conclusion

Myelolipoma arising in an extra-adrenal location is an uncommon clinical entity. Laparoscopy should be considered in these cases, as EAMLs in other retroperitoneal locations may be amenable to laparoscopic excision.

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Fig. 3. Postoperative computed tomography scan showing no residual tumour.

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