

Adrenal Myelolipoma Presenting with Spontaneous Retroperitoneal Haemorrhage Demonstrated on Computed Tomography and Angiogram—A Case Report

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Abstract

Introduction: A rare case of adrenal myelolipoma presenting with spontaneous rupture and retroperitoneal haemorrhage is described. **Clinical Picture:** A 51-year-old Caucasian male presented with acute onset of right loin pain. Preliminary diagnosis of haemorrhagic adrenal tumour was made on computed tomography (CT) and angiography. **Treatment:** Vascular embolisation was performed to stabilise the patient prior to definitive surgery. Tumour resection was subsequently performed. Histology confirmed ruptured adrenal myelolipoma. **Outcome:** The patient made an uneventful recovery. **Conclusion:** Ruptured adrenal myelolipoma should be considered in cases of spontaneous retroperitoneal haemorrhage. Vascular embolisation may be useful in stabilising the patient prior to definitive surgery.

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Key words: Adrenal tumour, Computed tomography, Retroperitoneal haematoma, Tumour embolisation

Introduction

Adrenal myelolipoma is a rare, benign tumour, usually an incidental finding. Spontaneous retroperitoneal haemorrhage resulting from this tumour is rare. We describe an unusual case of a large adrenal myelolipoma presenting with spontaneous retroperitoneal haemorrhage.

Case Report

A 51-year-old Caucasian male presented to the emergency room with sudden onset of right loin pain. There was no history of trauma. Initial contrast enhanced computed tomography (CT) revealed a large, fat-containing tumour related to the superior pole of the right kidney, with associated retroperitoneal haemorrhage (Figs. 1 & 2). Preliminary diagnosis was that of renal angiomyolipoma with spontaneous haemorrhage. The patient was noted to be tachycardic and pale a few hours later. A repeat CT showed a progressively larger retro-peritoneal haematoma. Urgent angiogram and embolisation was performed with the aim of stabilising the patient for non-emergent surgery. Selective right renal angiogram (Fig. 3) revealed a variant upper pole artery arising close to the origin of the main

renal artery. The nephrogram was noted to be complete and undistorted (Fig. 3). The tumour was supplied by the inferior adrenal artery and a small branch of the upper pole artery. The adrenal artery was noted to be stretched over the tumour mass. Abdominal aortogram did not reveal other vascular supply. Superselective cannulation of the inferior adrenal artery was achieved with a FasTracker[®] microcatheter (Boston Scientific Cork Ltd, Ireland). Embolisation was performed with 355-500 microns PVA (Contour[®], Target Therapeutics, USA) particles with good angiographic result. The patient remained stable after the procedure. Surgery was performed the following day. A large adrenal tumour covered with blood clots, measuring 12 x 9 x 7 cm and weighing 366 g, was removed. Histology of the resected tumour confirmed this to be a ruptured myelolipoma of the right adrenal gland. The postoperative period was uneventful. The patient made a good recovery and was discharged a few days later.

Discussion

Adrenal myelolipomas are rare, benign neoplasms composed of mature fat and bone marrow elements.¹ The

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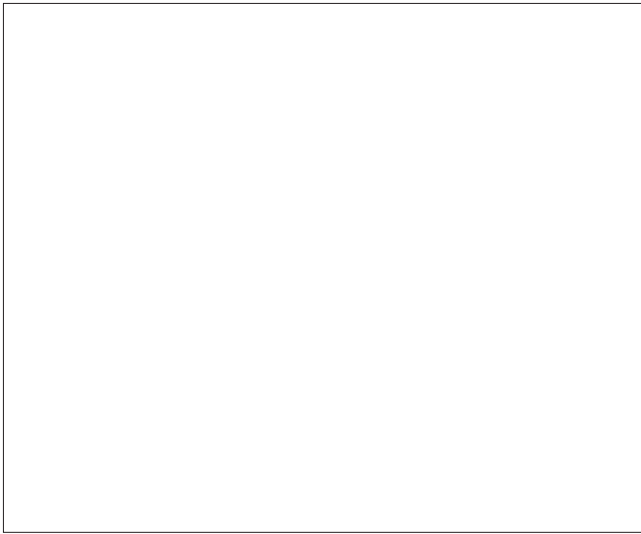


Fig. 1. Contrast enhanced CT of the abdomen at the level of the coeliac axis. Note the presence of the left adrenal gland. Large tumour of fat density in the right suprarenal region (arrow). The right adrenal gland was not demonstrated.

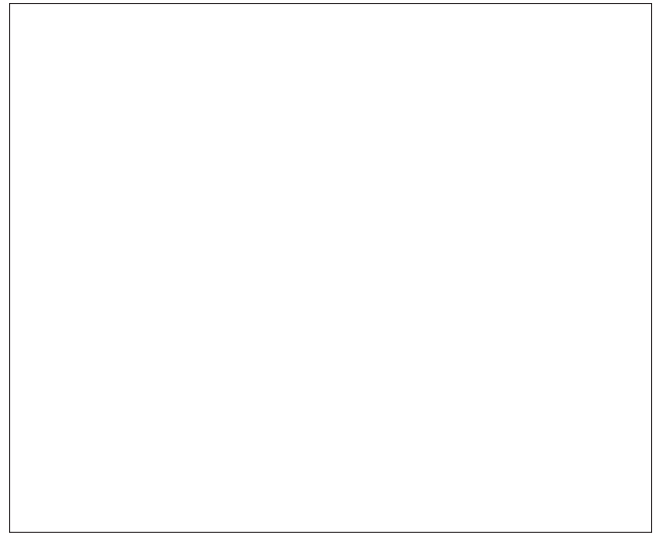


Fig. 2. Same study as Figure 1 at the level of the left renal hilum. This shows inferior and lateral displacement of the right kidney by the suprarenal mass (arrow).

majority are small (<5 cm), asymptomatic tumours found incidentally at postmortem. Estimates of prevalence at autopsy range from 0.08% to 0.4%, with an incidence of 0.03%.^{2,3} Symptomatic lesions are usually large and have been noted to present with pain, haematuria and hypertension.⁴⁻¹²

The imaging findings of a well-defined, suprarenal tumour with fatty content are characteristic of a myelolipoma. The absence of the normal adrenal gland and inferior displacement of the kidney are also clues to the diagnosis. These characteristics are well demonstrated on CT and magnetic resonance imaging (MRI).^{4-6,13-19} As illustrated by our case, a large tumour may mimic a renal angiomyolipoma on CT, which is statistically more common and more prone to spontaneous retroperitoneal haemorrhage. Adrenal myelolipomas that present with retroperitoneal haemorrhage are rare.²⁰ These tumours are usually large (>10 cm). Most cases that have been reported were posttraumatic.^{21,22} Spontaneous haemorrhage in adrenal myelolipomas is rare.^{23,24-27} Nevertheless, they should be considered in cases of spontaneous retroperitoneal haemorrhage. Demonstration of a fatty component (-30 to 115HU) in a haemorrhagic adrenal mass at CT is virtually diagnostic of underlying myelolipoma,¹⁷ the only other differential being an adrenal liposarcoma.

Angiography is not often used in the evaluation of adrenal haematoma. The vascular supply of an adrenal tumour can be demonstrated, but the findings are not diagnostic.¹⁸ Angiographic findings of an undistorted, complete nephrogram, and tumour supply from the inferior adrenal artery, were helpful diagnostic features in our case.

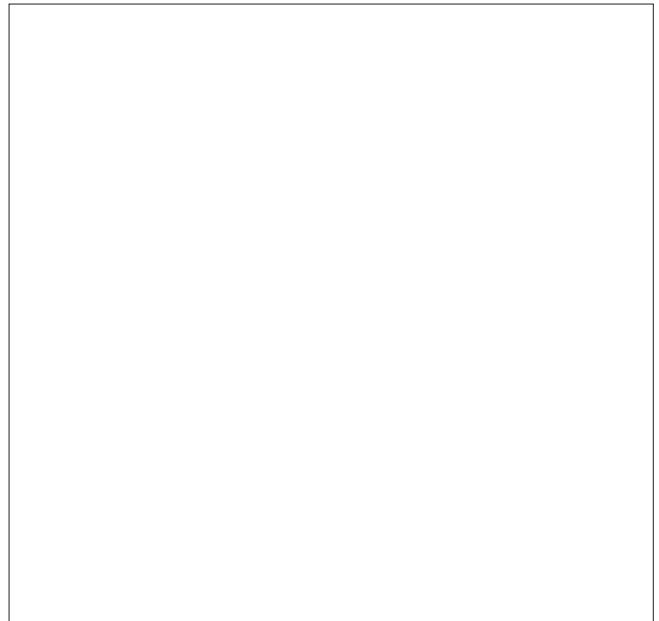


Fig. 3. Angiographic study shows variant upper pole renal artery (arrowhead) arising near the origin of the right main renal artery. Tumour supply from a branch of the upper pole artery (open arrow) and the inferior adrenal artery (arrow). Note the complete, undistorted nephrogram.

Preoperative embolisation of a ruptured myelipoma has not been described previously. This case illustrates the usefulness of vascular embolisation in stabilising patients prior to definitive surgery.

Conclusion

This unusual case highlights the importance of considering ruptured adrenal myelolipoma as a rare cause of spontaneous retroperitoneal haemorrhage.

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