Co-existing renal myelolipoma and renal cell carcinoma: A case report

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Introduction

Myelolipoma is an uncommon benign mesenchymal tumour most commonly found in the adrenal gland. Renal parenchymal myelolipoma is exceptionally rare with three previous cases reported in the literature. We report the first case of a renal myelolipoma co-existing with a clear cell renal cell carcinoma (RCC).

Case report

A 67-year-old gentleman on dual antiplatelet therapy (DAPT) presented 10 days post non-ST elevated myocardial infarction (NSTEMI) with left flank pain and macroscopic haematuria. He had been commenced on DAPT post coronary artery stenting. To investigate his haematuria and left flank pain, a computed tomography (CT) scan was organised which revealed a large 10 cm left solid enhancing exophytic renal mass (Fig. 1). The adrenal gland was normal and no lymphadenopathy or distant metastatic disease was identified. Patients’ haematuria resolved with non-operative management. His cardiologist recommended ideally waiting at least 3 months post coronary artery stenting prior to performing radical nephrectomy given his recent myocardial infarction.

Patient proceeded to have left radical laparoscopic nephrectomy. He was admitted to ICU for post op monitoring and commenced on tirofiban 12 hours post-surgery as recommended by his cardiologist. Despite early recommencement on DAPT, on day five post op, he suffered a NSTEMI resulting in acute pulmonary oedema. An emergency coronary angiogram and repeat coronary artery stenting was performed. He subsequently made a full recovery and was discharged home two weeks post op.

Gross pathology of the specimen revealed two adjacent tumours in the kidney (Fig. 2). Histopathology of the nephrectomy specimen confirmed Grade 2 clear cell renal cell carcinoma with adjacent myelolipoma (Fig. 3a and b). Surveillance imaging performed at 6 months post op showed no local recurrence or distant metastatic disease.

Discussion

Myelolipoma is a benign tumour composed of mature adipose tissue and haematopoietic elements. Most commonly found in the adrenal gland, its occurrence in extra-adrenal sites is rare with an incidence of 0.4%. Renal myelolipomas have only been reported in a few case reports and have not previously been reported as co-existing with a malignant renal carcinoma.

Adrenal and extra-adrenal myelolipoma are typically asymptomatic and usually incidentally diagnosed on radiological investigation for unrelated symptoms. In patients that are symptomatic, most common complaint is of abdominal or flank pain. Unlike adrenal myelolipomas that can be reliably diagnosed with CT or magnetic resonance imaging (MRI), there are no established radiological criteria for diagnosis of extra-adrenal myelolipomas and can be confused with several malignancies. A fatty retroperitoneal mass could be retroperitoneal liposarcoma, renal angiomylipoma, retroperitoneal teratoma and renal or adrenal myelolipoma. If indicated a needle core biopsy can be performed under ultra-sound (US) or CT guidance to get definitive diagnosis. Biopsy will usually show haematopoietic elements and adipose tissue raising the possibility of myelolipoma. However it is important to note that retroperitoneal myelolipoma can be difficult to distinguish from the other fatty retroperitoneal mass based on biopsy alone. This risk of ruptured mass or haemorrhage should also be considered.

Although the natural history of myelolipoma is benign, risk of ongoing growth and bleeding exists and as such radiological surveillance is recommended. Asymptomatic patients can be managed expectantly and at present there is no size based criterion for intervention in asymptomatic patients. In patients who are symptomatic or tumour mass is enlarging surgical excision may be warranted.
This first report of the co-existent of renal myelolipoma and clear cell RCC is noteworthy as it again signifies the potential risk of harbouring a malignant pathology adjacent to a benign renal tumour. Although rare, co-existing and hybrid renal tumours (HRT) are a reality and have implication on the critical decision making that surrounds percutaneous renal biopsy (PRB). The role of PRB has considerably expanded in the last decade despite increasing reports of HRTs. Some have argued that the rarity of co-existing tumors and HRTs should not deter from performing PRBs in an effort to minimize over treatment of renal masses particularly in the frail and co-morbid population. Despite its rarity, co-existing tumors are a potential pitfall for benign lesions diagnosed on PRBs and should be considered when counselling and selecting patients for PRB.

**Conflicts of interest**

All authors declare no conflict of interest.

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