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Rupture of Renal Angiomyolipoma Secondary to Trauma: A Case Report

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Abstract:

Renal Angiomyolipoma (AML) is a benign renal neoplasm containing fat, smooth muscle and vascular elements. It can be sporadic or associated with Tuberous sclerosis, with a heritable. Although it is a benign lesion, it is liable to rupture and haemorrhage due to its large size and inherent vascular nature. The rupture can be spontaneous or traumatic. Here we present an interesting case of a female with Renal AML with Traumatic rupture of the lesion.

Key Words: Renal angiomyolipoma; benign; Traumatic rupture; Retroperitoneal haemorrhage

Introduction

Renal angiomyolipoma (AML) is a benign lesion of the kidney composed of mature adipose tissue, smooth muscle and blood vessels (1). This can be sporadic in occurrence or can be associated with Tuberous sclerosis. In patients with Tuberous sclerosis, the tumour is often larger in size, bilateral and aggressive in nature (2). It is also observed that sporadic cases are more common in female patients. As it is a vascular tumour, Tumour rupture and intra-tumoral haematoma is a dangerous and potentially life-threatening complication. Herein, we present an interesting case of a female patient with traumatic Renal AML rupture leading to severe retroperitoneal haemorrhage.

Case report

A 75-year-old lady presented to the emergency department following a slip and fall, which was associated with giddiness with trauma to left flank. Following this episode of fall, she developed multiple episodes of giddiness, for which she was treated by a Physician. She was suspected to have a Coronary Arterial disease, for which she was treated with anti-platelet drugs and Intravenous Heparin. Due to the persistence of back pain, she was evaluated the following day and was found to have no fractures. She was subsequently discharged on symptomatic treatment. A week following the initial event, she was brought to the Emergency
department with recurrent episodes of giddiness, weakness and increasing backache.

On examination, contusion along right flank extending up to right inguinal area measuring 14 x 15 cm with fullness. On palpation, there was marked tenderness, however, there was no mass palpable. On admission, her vitals were stable with a pulse of 90 beats/min and blood pressure measuring 100/60 mm. Routine blood tests were performed, which revealed her Hemoglobin value to be 6.4gm/dl and Serum Creatinine of 3.6 mg/dL and her. She received 3 units of packed cell transfusion in view of low hemoglobin. On day 2, repeat haemoglobin value was 8.8 gm/dl, Blood pressure was 90/60 mm of Hg and Creatinine reduced to 2.4. She was transfused with 2 units of packed cells. On day 3, hemoglobin was 7 gm/dl, blood pressure of 90/60 mm of Hg and creatinine further reduced to 1.5.

As there was a persistent decline in the Haemoglobin despite aggressive transfusion, a CECT Abdomen and pelvis was ordered suspecting Intra-abdominal bleed. The CECT showed a large retroperitoneal hematoma pushing the right kidney anteriorly with Grade 3 renal injury involving lower pole right kidney. Additionally, a fat dense lesion seen

near the injured area suspicious of Angiomyolipoma. Right moderate pleural effusion is also seen.

Patient underwent exploratory laparotomy under general Anaesthesia. Retroperitoneal hematoma of approximately 3 litres was removed. The lower pole of the Right Kidney was shattered, with a persistent ooze of blood. Hence, a right Nephrectomy done, and other areas of the Abdominal cavity and Retroperitoneum was inspected to rule out any other sources of bleeding. Patient had smooth post-operative recovery and discharged on Day 4.
Histopathology of the Right Nephrectomy specimen showed that kidney appeared congested with hemorrhagic areas, with lower pole containing mature adipose tissue and thick-walled blood vessels suggestive of Angiomyolipoma. There was no evident of malignant cells within the tumour specimen.

Discussion

Renal AML is a benign neoplasm of the kidney, is more common in occurrence in males than in females (3). However, the reverse is true in case of Renal AML occurring in patients with Tuberous Sclerosis (1). The presenting features and signs of Renal AML is directly proportional to the size of the lesion. Although it is benign, it is often confused with renal cell carcinoma on Imaging, making it an important differential diagnosis. While small tumours remain symptomless, larger tumours can present with flank pain, gross haematuria or mass (4). Occasionally, there can be haemorrage within the tumour owing to its vascular nature, which is spontaneous, traumatic, or related to pregnancy (5). This is potentially life-threatening if left undetected. Our patient sustained a low-velocity injury which lead to the traumatic rupture of renal AML. While Transcatheter arterial embolization is deemed the treatment of choice to stop active hemorrhage of spontaneous rupture of AML, surgical intervention is often warranted to manage such cases (5). In this case, the administration of anti-platelets and Heparin might have prevented the formation of a localized haematoma, leading the persistent haemodynamic instability. Histopathology of the resected specimen is necessary to rule out any underlying malignant lesions.

Conclusion

Traumatic rupture of renal AML can occur following a trivial trauma. A CT scan would be helpful for accurate diagnosis. In areas where Transcatheter arterial embolization is available, it should be attempted prior to surgical intervention. However, in areas where the facilities are unavailable, it is necessary to intervene surgically to prevent irreversible haemorragic shock and mortality.

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