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SPONTANEOUS RENAL HAEMORRHAGE

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Abstract

Background: Spontaneous renal hemorrhage is relatively uncommon but may be life-threatening. There are some challenges in early diagnosis due to the lack of specific presentations **Case:** We reported a case of A 45-year-old female presented with chief complaints of pain in right flank for 2 days. The pain was sudden in onset, severe, progressive and relieved by taking analgesics. On examination, vitals were stable. Tenderness and guarding were present in right renal angle with rest of the abdomen normal. Patient was shifted to ICU for observation and started on antibiotics, analgesics and antacids. USG Abdomen, CT Renal Angiography, MRI Abdomen were done. Diagnosis of perinephric haematoma was made. Patient was managed conservatively with close observation in view of normal vitals and was discharged in a stable

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condition after 12 days of uneventful stay in the hospital. She followed up twice in the OPD in a stable condition.

Conclusion: We believe conservative management should be tried in cases where aetiology is not clear, failure of which should follow surgical intervention in the form of evacuation of haemorrhage.

Keywords: Renal Angiography, Spontaneous renal hemorrhage, perinephric haematoma

Introduction

Spontaneous renal hemorrhage (SRH) or hematoma is an intraparenchymal renal hemorrhage of unknown origin in a patient without trauma or anticoagulation. [1] SRH is most commonly related to occult vascular renal tumors (angiomyolipoma or renal cell carcinoma), vasculitides (polyarteritis nodosa), or vascular malformations. A few cases are idiopathic or have been attributed to infection, uncontrolled hypertension, ruptured hemorrhagic cysts, or erosion from large renal stones. [2]

Patients may present with the classic "Lenk's triad" of acute flank or abdominal pain, palpable flank masses, usually non-specific, and ultimately fulminant hypovolemia. Computerized tomography (CT) and ultrasonography are the primary imaging options, and treatment varies from renal artery embolization to nephrectomy, depending on the severity. Early recognition and accurate diagnosis require both detailed clinical examinations and radiologic studies. [3]

A meta-analysis of cases of SRH between 1985 and 1999 identified 165 cases [4] and a subsequent systematic review published in 2017 identified 102 more cases of SRH between 2000 and 2016. [5] Renal neoplasms followed by vasculitis were identified as the most common etiology of SRH. Angiomyolipoma was the most the form of neoplasm and polyarteritis nodosa was the most common form of vasculitis associated with SRH. Flank pain, haematuria, anaemia and shock were the most common presentation. [4,5]

The appropriate treatment of patients is based first on the diagnosis that a subcapsular or perirenal haemorrhage has occurred, and second on the determination of its cause. An accurate diagnosis of the cause requires a combination of clinical information and radiologic imaging. In this report, we describe a case of spontaneous renal haemorrhage.

Case Presentation

A 45-year-old female was presented to us with chief complaints of pain in right flank for 2 days. The pain was sudden in onset, severe, progressive and relieved by taking analgesics. There were no urinary complaints. The patient was a known case of hypertension, on medication. She underwent tubal ligation 20 years ago. Family, personal history was not significant. She was married and had 1 child, Menopause. On examination, vitals were stable. Tenderness and guarding were present in right renal angle with rest of the abdomen normal. Patient was shifted to ICU for observation and started on antibiotics, analgesics and antacids. USG Abdomen, CT

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Renal Angiography, MRI Abdomen were done. Diagnosis of perinephric haematoma was made. Patient was managed conservatively with close observation in view of normal vitals and was discharged in a stable condition after 12 days of uneventful stay in the hospital. She followed up twice in the OPD in a stable condition.

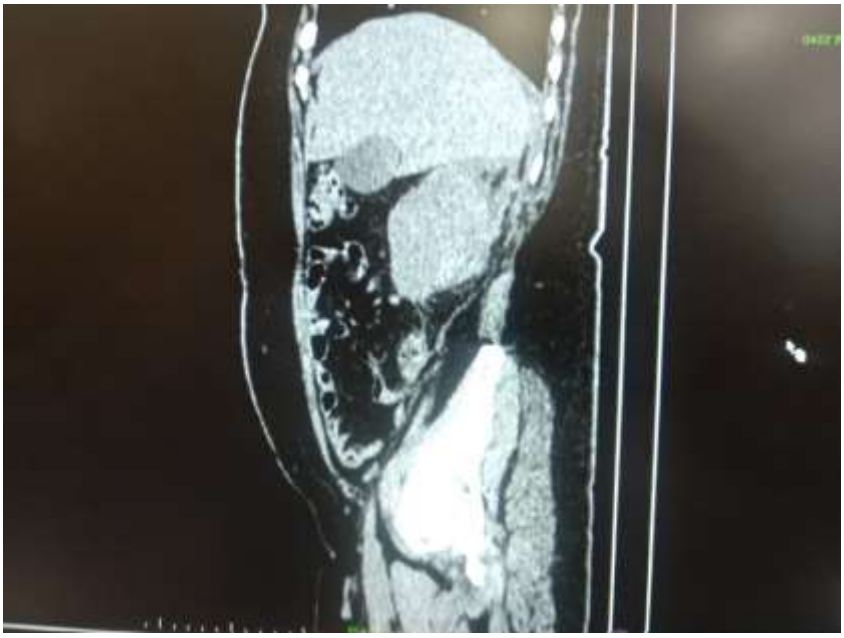

Figure 1: Perinephric collection extending to just below the liver

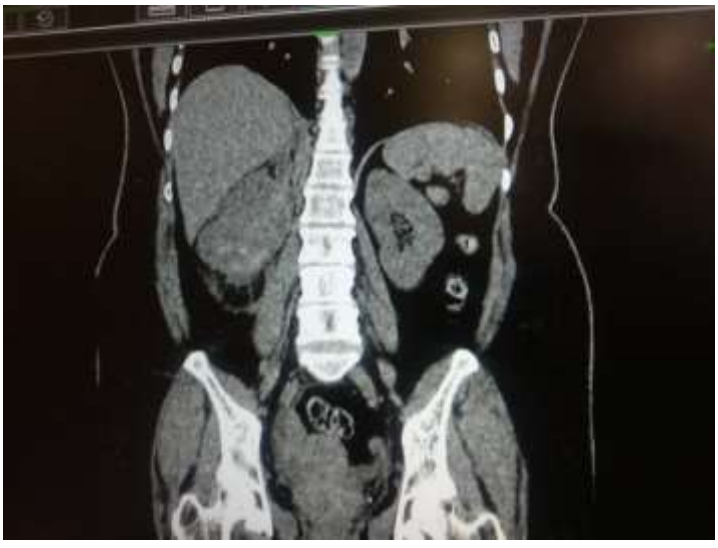

Figure 2: Perinephric collection in coronal view

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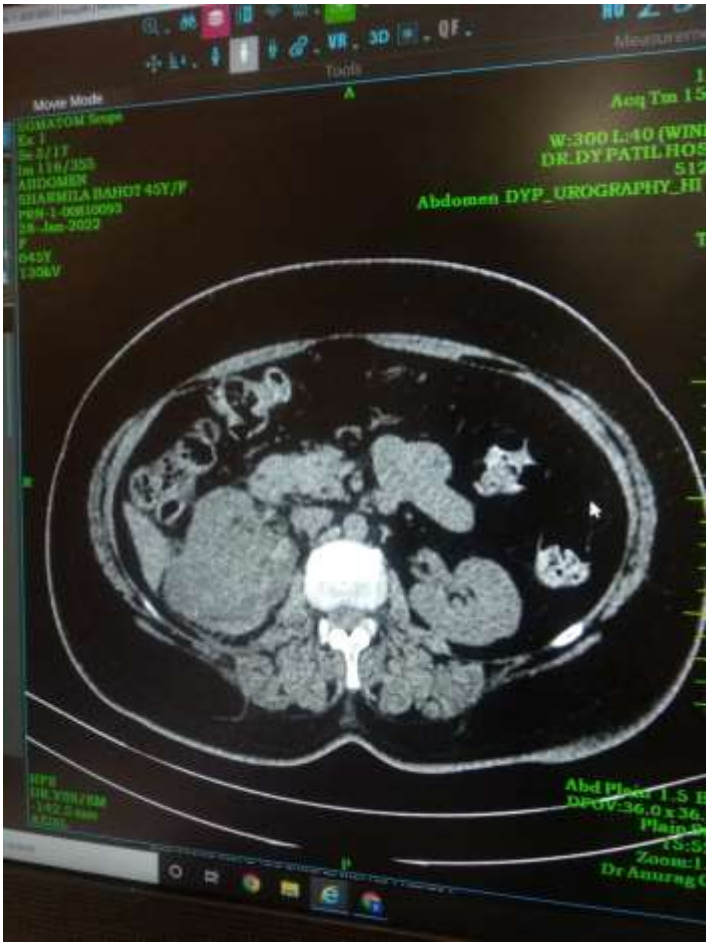

Figure 3: Perinephric collection as seen on axial view

Discussion

SRH is a rare clinical entity with or without obvious specific identified renal pathology or trauma. Nowadays, the detection rate of SRH is increasing with the wide usage of cross-sectional images in urology. In a recent systematic review, SRH is predominated in females (61.8%) in the fifth decade of life and affects more on the left side. [3]

In our case a 45-year-old female was presented to us with chief complaints of pain in left flank for 2 days. The pain was sudden in onset, severe, progressive and relieved by taking analgesics. There were no urinary complaints. On examination, vitals were stable. Tenderness and guarding were present in right renal angle with rest of the abdomen normal. The patient was managed conservatively with close observation.

McDougal WS et al [1] reviewed the literature and found that renal tumour was responsible in 57.0%-87.0%, vasculopathy in 11.0%-26.0%, infection in 5.0%-10.0%.

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USG is the first modality of choice due to easy availability but it is not confirmatory and it is operator dependent. USG may misdiagnose the condition as renal abscess or renal tumour. So, CT scan is needed to confirm the diagnosis or to rule out other diagnosis. CT scan has higher sensitivity and specificity for diagnosing renal tumour/abscess which may be misdiagnosed with ultrasound. It can strongly suggest angiomyolipoma. MRI is another alternative to CT with added advantage of diagnosing small tumours. Due to high incidence of Polyarteritis Nodosa (PAN) **Brkovic D et al**. [6] advised angiography as a mandatory imaging, if CT fails to reveal the underlying cause.

Shen Z et al. [7] proposed combined use of percutaneous drainage and urokinase injection into the haematoma cavity after its evacuation. **Brkovic D et al. [6]**, **Srinivasan V et al. [8]**, and **Powell PH et al. [9]**, all proposed conservative management (symptomatic management along with antibiotics, analgesics).

In another case report the management varies according to the haemorrhagic severity, overall clinical status, and other complications. 17.0% of the reviewed patients underwent nephrectomy due to active bleeding. 42.0% of the cases received conservative treatment, including blood transfusion, absolute bed rest, prophylactic antibiotic therapy, withdrawal from anticoagulant medications, and other supportive treatment. 15.0% had explorative laparotomy due to unclear bleeding sources or secondary retroperitoneal infection. 25.0% had transcatheter embolization to obliterate the haemorrhagic area. Most patients had uneventful recovery except for one patienti who died of post-pancreatic pseudocyst gastrotomy complications. [3]

In our patient we could not find a definitive aetiology and hypertension seems to be the only possible cause as infection, malignancy and PAN were ruled out. However, Hypertension in itself may be the result of this condition and may not be the causative factor as on the follow up her blood pressures are in normal range without any medication.

Conclusions

SRH is a life-threatening condition. Treatment strategy should be moulded according to the patient's condition. Conservative treatment ought to be considered in patients with normal serum creatinine, proper bleeding profile, and lesser hematoma size with no evidence of renal angiomyolipoma in radiology. Yet, significant deterioration of the affected kidney function and renal volume should be expected. trans-arterial embolization represents a proper alternative to surgical exploration in case of failure of conservative treatment. Nevertheless, it was associated with increased the risk for further management in nearly quarter of cases. Hypertension may be one of the causes as in our case. We did not advice radical nephrectomy without a definite diagnosis of renal cell carcinoma. We believe conservative management should be tried in cases where aetiology is not clear, failure of which should follow surgical intervention in the form of evacuation of haemorrhage.

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References

1. McDougal WS, Kursh ED, Persky L. Spontaneous rupture of the kidney with perirenal hematoma. J Urol 1975;114:181-4.
2. Cavaco JL, Capinha F, Pires MJ, Furão Rodrigues A, Oliveira Pedro A, Pais de Lacerda A. SPONTANEOUS RENAL HAEMORRHAGE. Eur J Case Rep Intern Med. 2023 10;10(2):003749.
3. Zhao Y, Jia X, Tong X, Niu G, Wang R, Liu L, Zhou F. Spontaneous perirenal hemorrhage in systemic lupus erythematosus: a rare case report and literature review. BMC Nephrol. 2021 Jun 9;22(1):217.
4. Zhang JQ, Fielding JR, Zou KH. Etiology of spontaneous perirenal hemorrhage: a meta-analysis. J Urol. 2002 Apr;167(4):1593-6.
5. Ahn T, Roberts MJ, Navaratnam A, Chung E, Wood S. Changing etiology and management patterns for spontaneous renal hemorrhage: a systematic review of contemporary series. Int Urol Nephrol. 2017 Nov;49(11):1897-1905.
6. Brkovic D, Moehring K, Doersam J, Pomer S, Kaelble T, Riedasch G, et al. Diagnosis and management of spontaneous perirenal haematomas. Eur Urol. 1996;29:302–07.
7. Shen Z, He W, Liu D, Pan F, Li W, Han X, et al. Novel technique for the treatment of large subcapsular haematoma: combined use of percutaneous drainage and urokinase injection. Int Urol Nephrol. 2014;46(9):1751-55.
8. Srinivasan V, Turner AG, Blackford HN. Massive intraperitoneal hemorrhage associated with renal pathology. J Urol. 1994;151:980–1.
9. Powell PH, Giggings AE. Safeguarding the kidney after nontraumatic perirenal haemorrhage. Br J Urol. 1981;53:210–11.