

## SPONTANEOUS SUBCAPSULAR KIDNEY HAEMATOMA SECONDARY TO SEGMENTAL RENAL ARTERY ANEURYSMAL RUPTURE: A RARE CASE REPORT

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### Abstract

Spontaneous subcapsular kidney hematoma is a rare clinical condition with diagnostic and therapeutic challenges. The segmental renal artery aneurysmal rupture is a very exceptional aetiology. Renal angiography, performed in haemodynamically stable patients, shows the origin of bleeding and allows embolisation. We report the case of a 54 year's old patient managed conservatively by selective arterial embolisation.

**Keywords:** Kidney subcapsular haematoma, renal artery, aneurysm

### Introduction

Spontaneous subcapsular kidney hematoma may occur in different clinical situations. Vascular abnormalities are exceptional aetiologies without the context of systemic disease or atherosclerosis. We report a spontaneous segmental renal artery aneurysmal rupture with conservative management and good outcome.

### Observation

A 54 year's old man without any specific medical history presented hematuria and violent right flank pain for three days. He had no traumatic accident, systemic disease or atherosclerosis event. Clinical examination found a retroperitoneal painful right flank mass. After patient stabilization and haemodynamic condition performance, ultrasonography was performed in the emergency department and showed a subcapsular right kidney 30 cm hematoma deforming the organ structure without precision of the supposed aetiology. A complementary CT scan imaging revealed a subcapsular right kidney hematoma with the absence of kidney tumor after enhanced contrast (Figure 1). The reconstruction imaging data revealed a segmental right renal artery aneurysm (figure 2). Renal angiography was made with selective embolization allowing conservative

management of the hematoma (figure 3). A surveillance protocol was made and consisted of hematocrit, temperature and procalcitonine controls. A CT scan was performed at 48 hours after embolization and at 7 days with good outcome.

### Discussion

Spontaneous subcapsular kidney hematoma (SSKH) is a rare condition [1]. The first description was made in 1856 by WENDERLECH and KENDALL [2, 3]. A literature review using the Medline database shows 165 case reports between 1985 and 2002 [4]. This entity may reveal a kidney disease in 93,3% of cases, but can also remain in normal situations in 6,7% of cases [5]. Kidney tumors are the most frequent aetiologies, especially angiomyolipomas and adenocarcinomas [9]. However, some vascular abnormalities or systemic diseases may also causes bleeding. Diagnosis is based on the **LENK association**: violent flank pain, hemorrhagic signs (hematocrit decrease, hypotension) and palpation of a retroperitoneal mass [6]. The diagnosis may be supposed on ultrasonography, but with difficulties to distinguish a solid tissular mass from a liquid hemorrhagic collection [1, 5, 7]. The most important imaging tool remains CT scan with enhanced contrast and reconstruction [8]. Arterial angiography is

performed if a vascular aetiology is suspected and allows selective embolization with good outcomes as shown in our case. In the case of non evident SSKH aetiology, open surgery allows global exploration but with uncertain results because of the deep aneurysm position in the segmental renal artery. Partial nephrectomy guided by CT scan reconstructed imaging seems to be a good alternative to selective embolization.

### Conclusion

Spontaneous subcapsular kidney hematoma is a rare condition with two main difficulties in both diagnosis and treatment. The diagnosis is based on CT scan imaging to eliminate kidney tumors. Treatment is difficult; the selective arterial embolization had the advantage to allow conservative approach.

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