CASE REPORT OPEN ACCESS

Spontaneous subcapsular renal hematoma in a patient being treated with dual antiplatelet therapy: A case report

Chrysovalantis Toutziaris, Kampantais Spyridon, Laskaridis Leonidas, Michail Koptsis, Filaretos Sardaridis, Stavros Ioannidis

ABSTRACT

Introduction: Spontaneous subcapsular renal hematoma is a relatively uncommon entity. After diagnosis, the determination of its cause is critical for the appropriate management. Case Report: In this report, we describe a case of spontaneous subcapsular renal hematoma in a patient without history of trauma. The patient was under double daily antiplatelet medication because of coronary heart disease. Conclusion: Diagnosis of the condition is suggested by ultrasound scan and confirmed by computed tomography (CT) scan. Literature suggests that the majority of these cases occur in association with renal tumors, and radical nephrectomy is recommended. When an underlying cause cannot be found, conservative treatment is proposed. However, the assessment must be completed with long-term, close surveillance, due to the risk of an undiagnosed neoplastic lesion. In our case, according to the negative imaging, the double antiplatelet therapy may be the only predisposing factor for the hemorrhage. It must be emphasized that discontinuation of medication and close follow-up can save the kidney.

Keywords: Spontaneous subcapsular renal hematoma, Antiplatelet therapy

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INTRODUCTION

Spontaneous subcapsular renal hematoma is defined as the hemorrhage of the renal parenchyma that is confined in the subcapsular space [1]. It is not a common entity in clinical practice. Till date, the rupture of a renal tumor was considered to be its most common cause and the recommended treatment was radical nephrectomy for non-fatty lesions [2, 3]. We report our experience with a patient with no other obvious cause for the hemorrhage except from his treatment with double antiplatelet medication. Our patient was treated conservatively with good outcome.

CASE REPORT

A 64-year-old male presented to the emergency department of our hospital with complaints of acute pain located at his left upper lateral midback, subcostally, mimicking renal colic pain. The patient did not give any history of trauma. However, he was under double daily treatment with antiplatelet medication, consisting of clopidogrel 75 mg and acetylsalicylic acid 100 mg. He was taking this medication because he had recently suffered from an acute myocardial infarction and had been subjected to coronary angioplasty a month ago.

During physical examination, his temperature was normal and there was mild tenderness situated at the

left costovertebral angle. Routine urine examination revealed microscopic hematuria. The laboratory examinations were normal, with initial hematocrit (Ht) 43%. The platelet count was 391x10^3/μL. No further platelet aggregation studies were performed. Kidney-ureter- bladder (KUB) radiography did not reveal any radio-opaque stone, while the initial ultrasound imaging revealed a subechogenic collection of fluid at the posterior renal surface. For this reason an abdominal computed tomography (CT) scan was immediately performed, showing extensive subcapsular hematoma of the left kidney with partial diffusion of blood in the perineal space (Figure 1). No other renal lesion was identified.

Because of the patient's haemodynamic stability, it was decided that conservative treatment was preferable with strict bed rest, rehydration, analgesic and antibiotic therapy (cefuroxime 750 mg three times daily I.V, paracetamol 1000 mg three times daily I.V). After consultation with cardiologists, the antiplatelet medication was replaced with low molecular weight heparin (tinzaparin sodium 14000 IU once daily S.C). The patient's symptoms receded within three days, while a gradual decrease of Ht up to 33% was noted. The patient was undergoing daily comparative ultrasound and the abdominal CT scan that was repeated seven days after the original CT scan, revealed constant stable findings without extension or worsening of the hematoma. The ultrasound that was performed after one month, showed a partial recession of the hematoma (Figure 2), while the abdominal CT scan six months later, revealed its almost total dissolution (Figure 3).

DISCUSSION

Spontaneous subcapsular renal hematoma was initially described by Bonet in 1679 [4]. Most common reported cases of spontaneous subcapsular renal hematoma in the absence of trauma include tumors (61.5%), vascular diseases, infections, peritoneal dialysis and post extracorporeal shock wave lithotripsy (ESWL). In 6.7% of cases the etiology cannot be found [5]. The incidence of tumors may be higher due to the fact that small, less than 2 cm in size tumors are undetectable by imaging techniques, including CT scan or angiography [6]. The most common associated renal tumor is angiomyolipoma (54%) followed by renal cell carcinoma (21%) [7].

Despite the fact that spontaneous subcapsular renal hematoma can present with Lenk's triad consisting of flank pain, tenderness and symptoms of internal bleeding, many other symptoms have been described in literature [2].

Ultrasound is very valuable in rapid identification of a renal hematoma. However, the findings should be confirmed with CT scan which also gives more

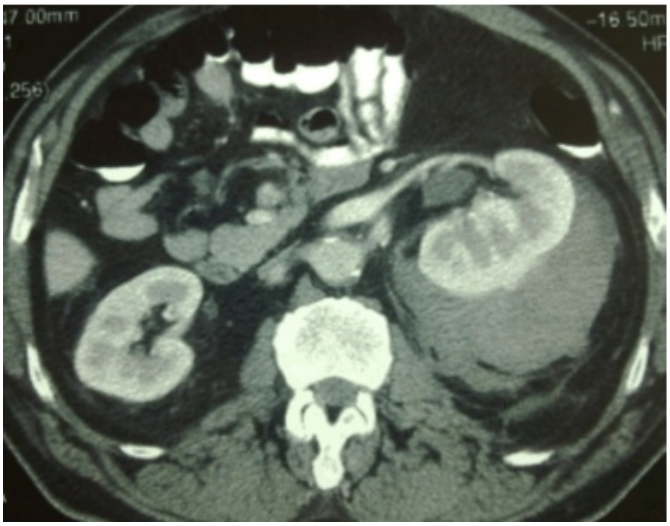

Figure 1: Initial contrast CT scan. A large subcapsular hematoma is observed in the left kidney.

Figure 2: Ultrasound revealing partial recession of the hematoma in the first month after the hemorrhage.

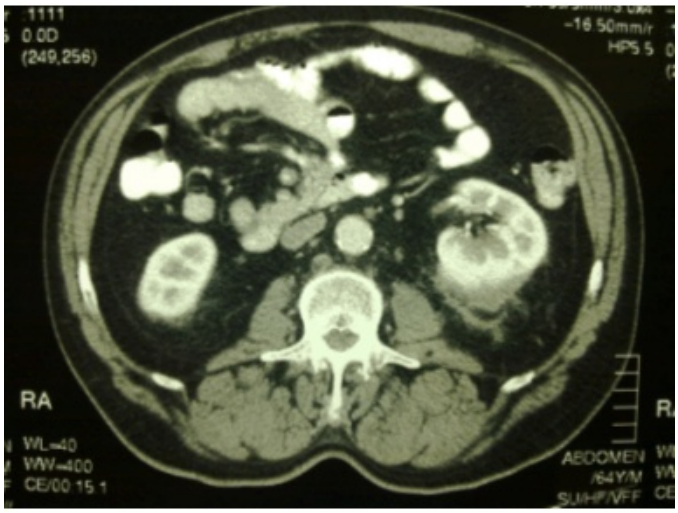

Figure 3: Contrast enhanced CT scan six months later showing almost total dissolution of the hematoma.

information regarding the cause of hematoma [4]. In our case there was no obvious responsible etiologic factor according to this imaging and the only cause that can be regarded is the dual antiplatelet medication of the patient. Captitanini et al. described a similar case of spontaneous subcapsular hematoma of the left kidney in a 67-year-old male. His therapy included acetylsalicylic acid (100 mg/day). A thoroughly investigation of his coagulation pattern was carried out revealing a platelet defect [8].

There are two possible treatment options regarding the optimal management of a spontaneous subcapsular renal hematoma. The first recommends radical nephrectomy because of the high incidence of small renal tumors especially in hemodynamically unstable patients. On the other hand, like in our case, conservative treatment is proposed to patients when an underlying pathology can be ruled out [2].

CONCLUSION

The cause of spontaneous subcapsular renal hematoma might not be evident in some cases. According to our case, the double antiplatelet may be the only predisposing factor and this rare complication may be attributed to this medication. Discontinuation of medication and close follow-up can save the kidney.

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Author Contributions

Chrysovalantis Toutziaris – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Kampantais Spyridon – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Laskaridis Leonidas – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Michail Koptsis – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Filaretos Sardaridis – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Stavros Ioannidis – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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