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A tumoral mass (local recurrence of renal cell carcinoma) causing massive intraabdominal bleeding after blunt abdominal trauma



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ABSTRACT

BACKGROUND: Solid organ injury after abdominal trauma is a common condition, however, injury of the local recurrent tumoral masses following abdominal trauma is rare. The injuries and bleeding in recurrent tumors tend to be highly serious since they are more fragile. The bleedings caused by renal cell carcinomas and by the traumatic laceration of their recurrence commonly occur in the retroperitoneum.

In this report, we present a 55-year-old female patient who underwent emergency surgery due to intraabdominal bleeding and bleeding was from the recurrence of a renal cell carcinomas.

PRESENTATION OF CASE: The 55-year-old female patient was admitted to the emergency service with intraabdominal bleeding. Physical examination revealed tenderness in the right lower quadrant, particularly in the traumatic area. Ultrasonography and computed tomography revealed diffuse intraabdominal fluid and a ruptured bleeding mass was excised. Pathological analysis indicated that the mass was isolated local recurrence of renal cell carcinoma.

DISCUSSION: Solid organ injury caused by blunt abdominal trauma may be accompanied by tumoral laceration; however, minor bleeding may occur in cases with blunt trauma, coexistence of blunt abdominal trauma with local recurrence and massive bleeding is extremely rare.

Control of bleeding is more challenging in tumoral tissues compared to normal tissues. The bleeding intraabdominal area rather than the retroperitoneal area, and this condition was attributed to the peritoneal tear caused by the trauma.

CONCLUSION: Local recurrent tumoral masses may be the source of the intraabdominal massive bleeding after blunt trauma.

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1. Introduction

Solid organ injury is a common condition in patients with abdominal trauma; however, intraabdominal and retroperitoneal tumoral masses may also be injured due to abdominal trauma. These masses may be associated with the local recurrence of primary or malignant tumors and are likely to be injured by abdominal trauma [1,2].

Renal cell carcinomas (RCCs) account for 85% of all primary renal cancers. RCC is twice as commonly in men as in women and often presents before the age of 60. Radical nephrectomy is the mainstay surgical treatment of RCC but local recurrence may occur following the surgery [3,4].

In this report, we present a 55-year-old female patient who presented to the emergency service with a diagnosis of right RCC and underwent emergency surgery with the prediagnosis of

intraabdominal bleeding. The source of bleeding was found to be a mass arising from the isolated local recurrence of an RCC.

2. Presentation of case

The 55-year-old female patient was admitted to the emergency service with blunt abdominal trauma. Patient history revealed that the patient had undergone right radical nephrectomy due to the diagnosis of RCC three years earlier. Physical examination revealed conjunctival pallor, a blood pressure of 85/60 mmHg, a pulse rate of 120/min, a temperature of 36 °C, and tenderness in the right lower quadrant, particularly in the traumatic area. Laboratory tests revealed leukocyte count; 16400/dL (4000–8000), Hb; 6.3 gr/dL (12–15), Plt; 88,000, and other tests were in normal range. Ultrasonography showed diffuse intraabdominal fluid and an impression of an irregular mass. Abdominal computed tomography (CT) also showed diffuse intraabdominal fluid and a 10 × 15 cm ruptured mass located close to the right kidney (Fig. 1).

Depending on these findings, the patient underwent median laparotomy under emergency conditions. Surgical exploration revealed approximately 4L of free intraabdominal blood and a

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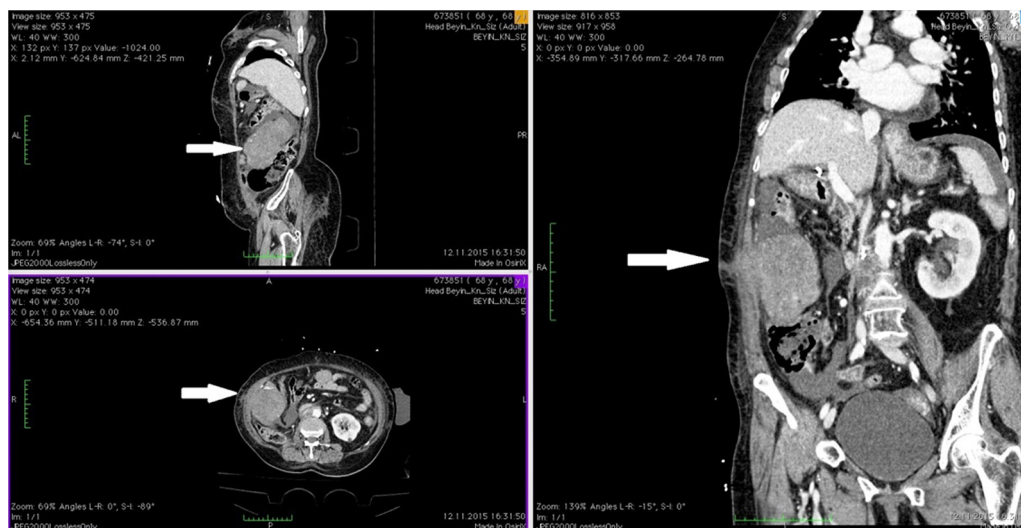


Fig. 1. CT imagine of mass.

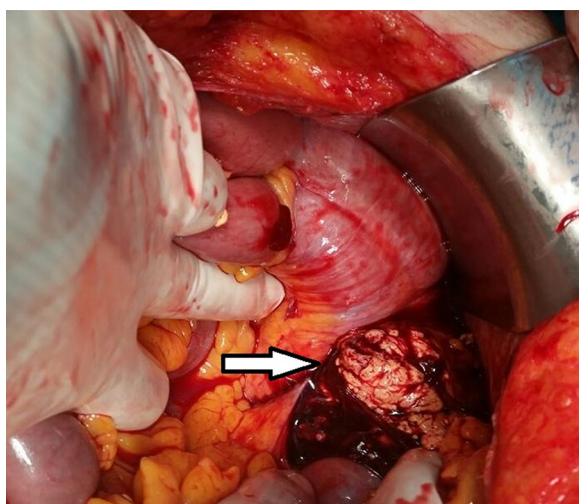


Fig. 2. Bleeding mass.



Fig. 3. Mass (RCC).

15 × 20 cm bleeding mass located in the right retroperitoneum (Figs. 2 and 3).

The other intraabdominal organs were normal. Total excision of the mass was performed and the bleeding was controlled. Pre-operatively, 4 units of blood were transfused. Postoperatively, the patient was transferred to the intensive care unit for follow-up on day 2 and clinical improvement started on day 3. The patient was uneventfully discharged on day 6.

The mass was clinically considered to arise from local recurrence and the pathological analysis indicated that the mass was a RCC with local recurrence. There is no tumor in the surgical margins (R0), but in the subsequently examinations lung metastases were detected. And patient was alive for the last three months follow-up.

3. Discussion

Solid organ injury caused by blunt abdominal trauma mostly occurs in spleen and liver, whereas kidney injury is rarely seen. Tumor-induced bleeding is even more rarely seen. Furthermore, massive bleeding caused by a tumor with local recurrence is extremely rare [3]. This extremely rare condition was present in our patient, who had a history of surgery and presented with massive intraabdominal bleeding caused by trauma.

Ultrasonography (USG) is the primary method of choice in the diagnosis of blunt abdominal trauma, whereas advanced imaging techniques including CT and magnetic resonance imaging (MRI) are used in the cases that cannot be diagnosed by USG [4,5]. In our patient, we also used USG as the primary diagnostic tool in the emergency service but we used CT to determine the exact source of bleeding. Moreover, while USG revealed intraabdominal bleeding alone, CT showed the ruptured mass in the retroperitoneum, which was the exact source of bleeding.

Surgery remains the primary method of treatment in the management of RCC, and radical nephrectomy is the most common method used in most cases. Surgery provides favorable outcomes in suitable patients that have no distant organ metastasis. On the other hand, radiotherapy is recommended in inoperable patients. Following surgery, local recurrence in the retroperitoneal area is reported to occur in 1.5% of the patients. This recurrence occurs within the first year after surgery and varies according to the size of the tumor [6,7]. Our patient underwent right radical nephrectomy three years earlier and presented no tumor recurrence at the one-year follow-up visit. After nephrectomy, the patient received no treatment and had no complaint during the throughout between the nephrectomy and the occurrence of blunt trauma.

A number of studies have reported the presence of spontaneous bleeding in RCC cases [3]. Some other studies have reported RCC cases with minor bleeding caused by trauma [5]. However, coexistence of blunt abdominal trauma, isolated local recurrence tumoral laceration and massive bleeding have not been reported by any of these studies [5,7]. Therefore, our patient presented a very rare condition since the bleeding was caused by the blunt trauma as well as a mass with local recurrence of tumoral mass, and massive bleeding was present.

Malignant tumors are likely to be injured by blunt traumas since they have a fragile structure. Therefore, these tumors lead to massive bleeding that does not stop spontaneously. Similarly, the bleeding in our patient was caused by a tumor with local recurrence and was characterized as massive bleeding.

In our patient, the bleeding was expected to occur in the retroperitoneal area but it occurred in the intraabdominal area. This condition was attributed to the peritoneal tear caused by the trauma. Following the bleeding control, total excision of the ruptured mass was performed.

In conclusion, the source of bleeding in cases with blunt abdominal trauma may be solid organs, tumors as well as masses with local recurrence. Although the triple coexistence of blunt abdominal trauma, isolated local recurrence of tumoral laceration and massive intraabdominal bleeding is extremely rare.

Conflicts of interest

There is no conflict interest.

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Ethical approval

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Consent

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Author contribution

Ihsan yıldız: writing the paper.
Yavuz savař Koca: study concept design.
Koray okur: data collection.
İbrahim barut: interpretation.

Guarantor

Ihsan yıldız.

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