

## TRAUMATIC RUPTURE OF ADRENAL PSEUDOCYST LEADING TO MASSIVE HEMORRHAGE IN RETROPERITONEUM

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### ABSTRACT

We present the case of a patient who had a large pseudocyst in the right adrenal gland, which was ruptured following blunt abdominal trauma, leading to a voluminous hemorrhage in retroperitoneum. A 29-year old female patient was admitted in the emergency room following a fall from stairs with trauma in right flank. She underwent a computerized tomography that evidenced a large retroperitoneal collection, with no apparent renal damage. She was submitted to surgery, where a large ruptured cyst was observed, originating from the upper portion of the right adrenal gland. Cystic diseases of adrenal gland are rare. Highly voluminous cysts can be damaged in cases of blunt trauma to the lumbar region leading to large hematomas in retroperitoneum.

**Key words:** adrenal glands; cysts; wounds and injuries; hemorrhage; retroperitoneal space

**Int Braz J Urol. 2004; 30: 35-6**

### INTRODUCTION

Cystic pathologies of the adrenal gland are rare, with an incidence of 0.06% in 1,400 autopsies (1). The cysts most frequently found in the adrenal gland are endothelial (45%), hematic pseudocyst (39%), epithelial (9%) and parasitic (7%) (2,3).

The objective of this work is to report the case of a female patient who had a voluminous pseudocyst in right adrenal gland that was ruptured following a blunt abdominal trauma, leading to an extensive hemorrhage in retroperitoneum.

### CASE REPORT

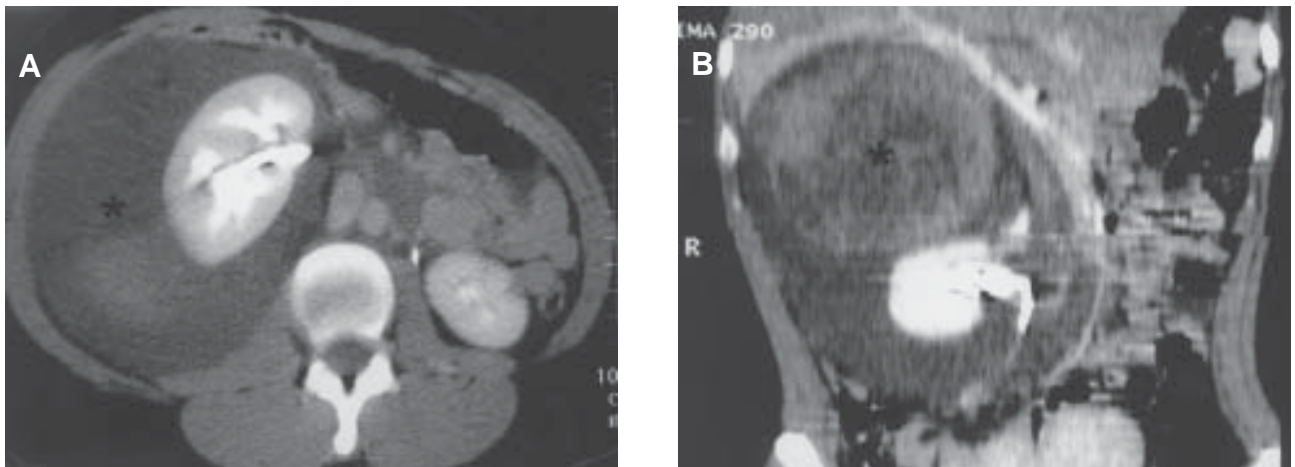
A female, 29-year old patient was admitted to the emergency room reporting that 12 hours earlier she had fallen from the third step of a stair. She presented intense pain in right flank and a voluminous mass that occupied a large portion of the upper abdominal region. The patient did not present hemodynamic instability and denied previous pathologies.

She underwent a computerized tomography that evidenced a large retroperitoneal collection, with preservation of the right kidney, compatible with extra-renal hematoma (Figure-1). The kidneys and the liver were apparently intact in the image scan. It was decided to perform an exploratory laparotomy.

During the surgery, the presence of a large retroperitoneal bulging was observed, without any lesion in liver or intestine. An exploration of the retroperitoneal hematoma was performed. A voluminous cyst was found, which was ruptured, originated from the upper portion of the right adrenal gland. It was performed the hematoma drainage and partial excision of the region in the adrenal gland where the cyst was located. The pathological report showed it was a hematic adrenal pseudocyst.

### COMMENTS

The retroperitoneal organ most frequently affected in blunt abdominal trauma is the kidney (1). Adrenal lesions in blunt trauma are rare except for



**Figure 1** - A) Computerized tomography (CT) of abdomen with contrast medium evidencing a voluminous retroperitoneal hematoma in the peri-renal area (\*). Cross section. B) Abdominal CT with contrast medium evidencing renal integrity and the presence of a voluminous hematoma in the peri-renal area, as well as the presence of a voluminous expansive lesion with cystic content in the region of the adrenal gland (\*). Frontal section

cases where there is some pathology that causes the gland's enlargement, as in cases of adrenal cysts, tumors and congenital hyperplasia (1).

The majority of adrenal cystic pathologies are asymptomatic, being detected in autopsies; nevertheless, large cysts have a tendency to develop complications such as intracystic hemorrhage and rupture, which can manifest as a surgical emergency (2). Symptoms of lumbar pain, nausea, vomiting, increased abdominal volume and constipation occur only in cases of highly voluminous cysts. Usually, adrenal cysts are incidentally seen in routine examinations such as ultrasonography and computerized tomography of abdomen (3).

Among the adrenal cystic pathologies, the endothelial cysts and the hematic pseudocyst are the most frequent (2). The hematic pseudocyst accounts for 40% of all cystic lesions of the adrenal gland (2). The hematic pseudocysts are covered by a thin capsule that isolates the region from the remaining normal adrenal parenchyma (2). They are generally unilocular and the liquid present inside them has a reddish color, and can reach large volumes, with reports of pseudocysts containing up to 1 liter inside (2). They usually present encapsulated residues of previous hemorrhages in the adrenal gland (2).

Highly voluminous cysts can be damaged in cases of blunt trauma to the lumbar region, leading to voluminous hematomas in retroperitoneum.

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*Received: August 27, 2003*

*Accepted after revision: November 14, 2003*

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