Traumatic bleeding into a large adrenal cyst

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Abstract  An unusual presentation of massive bleeding into a large adrenal cyst. We discuss early management and surgical exploration with a review of the pathology and literature.

Adrenal cysts are usually asymptomatic. They are discovered incidentally at autopsy or, during evaluation for other pathology, by ultrasound or computerized tomography (CT) scans.

Hemorrhage into an adrenal cyst is a rare occurrence and is usually associated with blunt trauma. It carries a high mortality if not evaluated and managed promptly.

We report on a case with massive bleeding into a large adrenal cyst. Early management and surgical exploration is presented. A review of the pathology and literature is conducted.

Keywords: Benign adrenal cyst, bleeding, surgical approach

A 41-year-old male presented to the Emergency Room with a 24-hour history of progressing abdominal pain, localized to the left side, after sustaining a blunt trauma playing in the back-yard. His vital signs in the Emergency Room were stable and the abdomen was soft. There were no bruises but there was mild tenderness over the left upper quadrant with a vague feeling of a mass. White blood count (WBC) was 16500, Hgb 12.6 Hct 39, urine showed macro hematuria. He was admitted to the urology floor for observation. Intravenous pyrogram showed bilateral prompt visualization of both kidneys but the left side was displaced caudally (Fig.1). He was scheduled for ultrasound and CT scan the next morning. However, five hours after admission his vital signs deteriorated and his blood pressure dropped. Repeat Hgb was 8; repeat Hct was 28. Colloid and crystalloids were started and he was taken for aortography to see if temporary embolization of the bleeding vessel could stabilize his condition while the operating room (OR) team was called. X-ray showed a huge avascular mass markedly displacing the left kidney and splashing the splenic and renal arteries (Figs. 2,3).

In OR, a thoraco-abdominal incision through the tenth rib was made and the retroperitoneal area was explored. A huge, encapsulated cyst was found above the left kidney. The cyst contained about 2000 cc of dark red blood, which was evacuated. No clots were seen. Splenectomy was performed due to bleeding. The mass and the left kidney were inseparable and removed. A Penmore drain was inserted and was removed after four days. The patient left hospital within 10 days.

The final pathology was: "Benign cyst of left adrenal gland that arises from the adrenal cortex. Most of the wall of the cyst has no lining epithelium, except an area close to the adrenal gland. Some well-preserved adrenal cortical cells were present within the cyst wall". Kidney and spleen pathology were normal.

Discussion It was in 1670 that Greiselius reported the first case of an adrenal cyst. In 1966, Foster reported his case and collected 220 cases. The number has increased with the advent of computerized tomography and ultrasound.

Adrenal cysts are usually asymptomatic and many are discovered at autopsy - an incidence of 0.2%. The incidence of asymptomatic cysts discovered incidentally during CT scan has been found to be 10%. The female to male ratio is 2:1. Adrenal cysts can occur in all age groups - they have been reported in neonates and in patients up to 80 years of age - with a peak in the third to sixth decades. Adrenal cysts are usually asymptomatic but can give variety of symptoms, ranging from

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Fig. 1 - IVP film showing displacement of left kidney

Fig. 2 - Aortography picture showing the displacement of the splenic and renal arteries by a large mass

Fig. 3 - Venous phase of the aortography showing the mass effect of displacing left kidney
Cushing's syndrome, to pheochromocytoma, to vague abdominal pains or a palpable mass. Occasionally an acute abdomen or a tender mass is a complaint when intracystic hemorrhage occurs, as in our case. The hemorrhage is often associated with the use of anticoagulants, pregnancy, sepsis, neonatal stress, pheochromocytoma and adrenal vein thrombosis.\textsuperscript{5}

A review by Lawson\textsuperscript{7} found only 10 cases of adrenal hemorrhage with massive retroperitoneal extension reported prior to 1969. He described three additional cases. In 1989, Anderson\textsuperscript{8} reviewed the literature and collected a total of 16 cases: 7 cases with pheochromocytoma, 5 of whom died; one with adenocarcinoma of adrenocortical origin survived surgery to die later of metastases; 8 of benign origin, 6 of whom survived and 2 of whom died of massive bleeding.

Adrenal hematoma, secondary to blunt trauma, has been reported to occur 60\% on the right side, 25\% on the left side and 15\% bilaterally.\textsuperscript{8}

Spontaneous adrenal hemorrhage is rare and can be a fatal event. The ability to make a timely surgical intervention in these patients lies in having a high index of suspicion for this diagnosis where the sudden onset of severe flank pain and signs of massive blood loss are apparent.

The treatment of adrenal cysts depends on the size and the symptoms. Indications for surgery include large and complicated cysts, parasitic, functioning and malignant suspicion.

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\textbf{References}

خلاصة البحث:
وصف لأعراض غير عادية لحالة نزف شديد في كيس كظري كبير. ويشمل ذلك المعالجة المبكرة، والاستقصاء الجراح، مع استعراض لهذا النوع من الحالات المرضية وما نشر عنها من دراسات وأبحاث.