A rare case of a giant haemorrhagic adrenal cyst

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Citation: Kaderabek D, McLeod N, Tigges T. A rare case of a giant haemorrhagic adrenal cyst. JSCR 2012. 6:16

ABSTRACT

Giant adrenal cysts are an infrequent encounter in surgical practice. In this article we discuss a case of a 66 year old woman who presented with increasing abdominal girth and was subsequently found to have a large retroperitoneal mass on computed tomography (CT) scan. After a thorough endocrine work up was completed, the patient underwent an exploratory laparotomy with resection of a giant adrenal mass. This was ultimately found to be a haemorrhagic cyst. This case highlights the clinical features and management of this relatively rare finding.

INTRODUCTION

Adrenal cysts have been described previously in the literature, but are an infrequently occurring lesion. In 1951, Wahl cited a necropsy incidence of 9 in 13,996 (0.064%) and a more recent study by Neri, et al cited an incidence of 14 or 19,906 (0.07%) (1,2). Most of these lesions are found incidentally; although they can cause symptoms due to tumour expansion or, in rare cases, hyperfunctioning endocrine lesions or shock from blood loss into the cyst (3-5). Surgical resection is the treatment of choice if the cysts are large, malignant, and/or symptomatic. We present an unusual case of a giant haemorrhagic adrenal cyst.

CASE REPORT

A 66-year-old African American woman presented with a several month history of abdominal distension. Despite being entirely asymptomatic, she was found to have a palpable left-sided abdominal mass on physical examination. Her past medical history was remarkable only for hypertension and hyperlipidaemia. A CT scan was obtained which revealed a large left retroperitoneal mass measuring up to 21 cm in diameter and displacing the kidney, spleen, stomach, and retroperitoneal structures. A comprehensive metabolic panel was unremarkable except for a potassium level of 3.1 (normal: 3.5-5.5). Blood counts were normal. A 24-hour urine sample was obtained for vanillylmandelic acid and metanephrines, which were 5 mg/24 h (normal less than 6) and 556 mcg/24 h (normal: 224-832), respectively. In addition, thyroid stimulating hormone and cortisol levels were in the normal range. The patient was taken to the operating room and underwent exploratory laparotomy. A 20 cm x 19 cm x 19 cm mass was dissected from the left adrenal gland and did not appear to be invading any surrounding structures. At the time of excision the patient was also noted to have cholelithiasis with signs of chronic cholecystitis and therefore cholecystectomy was performed. In addition, a 6 cm left ovarian cyst was noted and subsequently a left salpingo-oophorectomy was carried out. The patient’s post-operative course was uncomplicated. The final pathologic diagnosis was a
4,300 gram haemorrhagic cyst containing necrotic adrenal tissue without histologic signs of malignancy.

**DISCUSSION**

Cystic adrenal masses are relatively rare; especially in the case of haemorrhagic cysts. (6) Prior authors have suggested an increasing frequency of identification of such lesions due to the growing routine utilization of imaging (3). In light of this fact it is important for surgeons to be aware of this entity when evaluating a patient with a retroperitoneal mass. Our patient presented for evaluation simply due to increasing abdominal size, and subsequent imaging revealed a retroperitoneal mass. Given the size of her abdomen her lack of symptoms seemed remarkable. Our current understanding of adrenal cysts categorizes them into four subsets. These include true endothelial cysts, pseudocysts, cystic adrenal neoplasms, and cyst of infectious aetiology (3,6,7). Of these, endothelial cysts are felt to be the most common followed by pseudocysts. Most of these lesions do not cause symptoms unless they become large enough to exert a mass effect on surrounding structures at which point they may lead to a variety of problems including pain, constipation, distension, and nausea, as well as other gastrointestinal and/or urinary tract symptoms. Rare instances of hemorrhagic shock and acute abdomen have also been reported (4-6). Malignancy rates of adrenal cysts are low. In one study malignancy was discovered in 39 of 515 cases (7%) (2). Some authors recommend hormonal evaluation prior to definitive intervention due to the possible presence of a hyperfunctioning endocrine lesion (2,8). Depending on the patient’s history and physical examination this may include catecholamines, cortisol, renin and aldosterone levels. We feel surgical excision should be the treatment of choice for large or symptomatic cysts because previous studies have shown aspiration alone frequently resulted in reaccumulation of fluid within the cyst. Neri and colleagues noted reaccumulation of fluid in 6 of 19 cases in their series (32%), and similar results were seen in a study by Tung, et al. (2,9). Laparoscopy is considered the treatment of choice for smaller cysts less than 6 cm and when there is not felt to be significant risk of haemorrhage or malignancy, in which case laparotomy is preferred (6,7). Laparotomy was utilized in our patient owing to the size of the mass and concern for possible malignancy. Giant haemorrhagic adrenal cysts are a very rare clinical entity. Initial diagnostic workup should include both imaging and hormonal evaluation. Surgery is generally required for definitive diagnosis and therapy. Smaller lesions may be approached using laparoscopy, however, open procedures are recommended for large, haemorrhagic, and/or malignant lesions.

**REFERENCES**