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Right adrenal pseudocyst

Pseudoquiste adrenal derecho

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Palabras clave:
Quiste adrenal, pseudoquiste, adrenalectomía, glándula suprarrenal, retroperitoneal.

ABSTRACT

Adrenal pseudocyst is a rare entity. About 600 cases have been described worldwide since it was first reported. Few have been reported in the Mexican literature. Its diagnosis and treatment can be considered a challenge. Although there is controversy, the main strategy has been the same in the last decade. We present the case of a patient with a large right adrenal pseudocyst.

RESUMEN

El pseudoquiste adrenal es una entidad poco frecuente. Se han descrito alrededor de 600 casos desde su primer reporte. Pocos han sido informados en la literatura mexicana. Su diagnóstico y tratamiento pueden ser considerados un reto. A pesar de que existe controversia, la estrategia principal ha sido la misma en la última década. Presentamos el caso de un paciente con pseudoquiste suprarrenal derecho grande.

INTRODUCTION

Adrenal lesions were first described by Greiselius, a Viennese physician, in 1670.[1] They may occur at any age, especially between 30 and 60 years of age. They are more common in women;[2,3] they may be asymptomatic or present with pain, gastrointestinal symptoms and a palpable mass.[4] They have been detected in 0.06 to 0.18% of autopsies[5,6] and are identified in 4% of computerized tomography (CT) scans.[7]

According to Levison's classification they are divided into four categories: endothelial cysts (45%), epithelial cysts (9%), pseudocysts (39%) and parasitic cysts (7%).[6,8-11] They can measure from millimeters to 50 cm in diameter.[12] They are usually unilateral but can occur bilaterally (8-15%).[2,12]

Predisposing factors include abdominal trauma, neonatal hypoxia, hemorrhagic diathesis, use of anticoagulants, and aneurysms.[10] The possible etiology of adrenal pseudocyst includes malformation and hemorrhage from the adrenal veins to the adrenal gland due to trauma, surgery or coagulopathy.[3,9]

CASE PRESENTATION

A 42-year-old male patient with no relevant history attended the general surgery outpatient clinic. He started in March 2018 with mild colicky abdominal pain in the right hypochondrium, radiating to the right renal fossa, intermittent, and without any other additional symptoms.

An ultrasound scan done in March reports liver of normal size, shape, and situation with an irregular lower right border, of heterogeneous echogenicity due to the presence of a rounded shape anechoic mass with well-delimited borders and thin walls suggestive of a simple cyst *(Figures 1 and 2)*.

In May 2018 he had normal cytology blood cell counts, liver and renal function tests, and coagulation parameters. No cortisol, aldosterone, urinary catecholamine or metanephrine measurements were done. An abdominal CT scan performed in May reports a right adrenal gland hypodense image with a maximum diameter of 101 mm with calcification images inside it that was exerting occupational and compressive effect

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on surrounding structures *(Figures 3 to 6)*. Once internal medicine service completed his preoperative assessment, an open anterior surgical approach was scheduled. He was given antibiotic prophylaxis with ceftriaxone 2 g in a single dose before a right subcostal incision was made and we proceeded to electrocautery removal of the right adrenal cyst of 10 × 9 cm. Adhesions to the liver were found and a content of approximately 400 ml of hyaline fluid and calcifications of about 20 × 40 mm in its interior were seen. A Penrose drainage of ½" (19 mm) was placed in the subphrenic space due to the suspicion of postoperative hemorrhage.

Histopathological report was of an adrenal pseudocyst associated with old hemorrhage, fibrosis, and extensive dystrophic calcification. The patient was discharged on the third day of hospitalization with follow-up in the ambulatory setting for four months postoperatively with control with hepatic and right renal ultrasound scans. There were no complications *(Figure 7)*.

DISCUSSION

Unlike true cysts, adrenal pseudocysts do not have a cell lining; they are composed mainly of fibrotic tissue, sometimes with calcifications in their interior.[8,9]

Most pseudocysts are nonfunctional and benign. Their functional status may cause symptoms of adrenal insufficiency. The risk of malignancy is 7%.[11] Recognition and diagnosis of an early-stage primary adrenal carcinoma is particularly important, so complete resection offers the patient a good chance of survival.[9,10] The most common malignant adrenal lesions are metastases (95%), malignant pheochromocytoma (3%), and adrenal carcinoma (2%).[12]

Initial studies should include cytology blood cell counts, liver and renal function tests, and

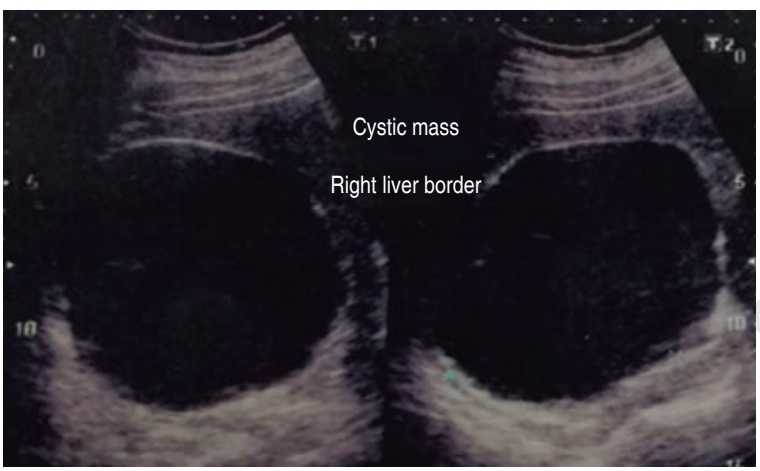

Figure 1: *Hepatic ultrasound with a rounded, thin-walled, well-defined anechoic image.*

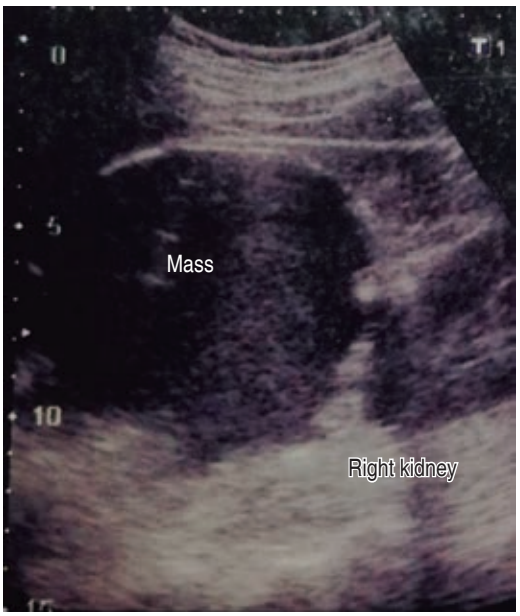

Figure 2: *Ultrasound with image of a simple cyst located in the right lower hepatic border.*

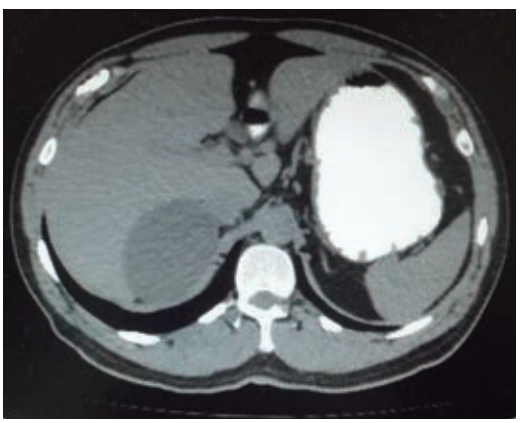

Figure 3: *A hypodense image with occupational effect on the hepatic gland.*

cortisol, aldosterone, calcium, and urinary catecholamines and metanephrine levels.[3] Ultrasound is usually the first imaging study used in the evaluation of an adrenal mass because of its low cost and lack of radiation exposure. However, its sensitivity varies from 66.7 to 90%. Computerized tomography scan sensitivity is 85-95% and specificity from 95 to 100%. Magnetic resonance imaging (MRI) has as a limitation, unlike CT, due to its low sensitivity for detecting calcifications.[10] Essentially, the differential diagnosis of an adrenal pseudocyst includes any space-occupying lesion of the upper abdomen, whether hepatic, splenic, and renal cysts as well as mesenteric or retroperitoneal cysts and solid adrenal tumors.[10] It should be noted that

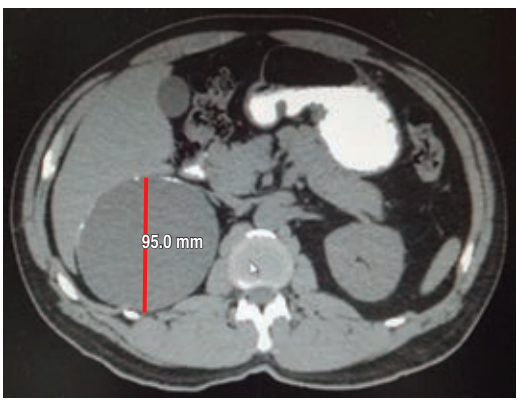

Figure 4: *A cystic image measuring 95 mm in its antero-posterior axis.*

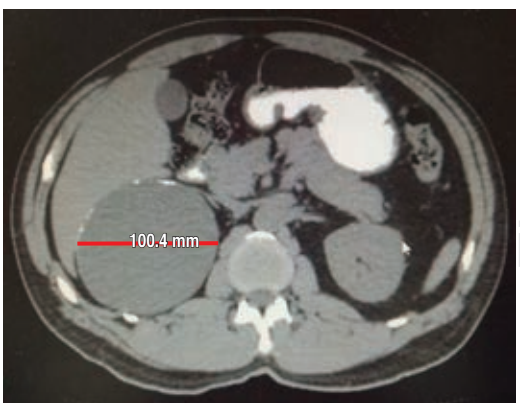

Figure 5: *A cystic image with calcifications, with a maximum diameter of 100.4 mm.*

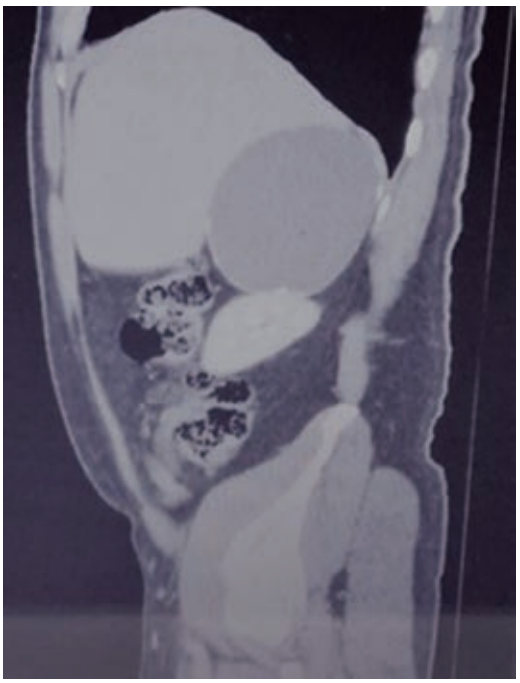

Figure 6: *A large cystic image with occupational effect on neighboring structures.*

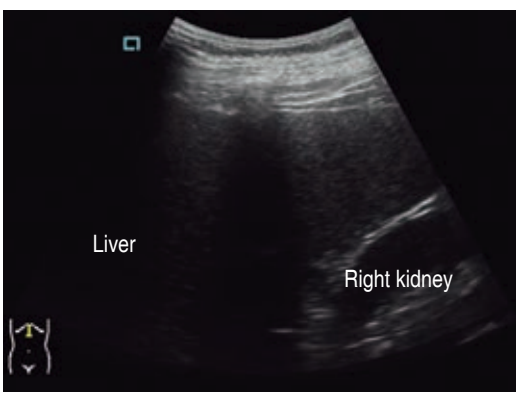

Figure 7: *Liver ultrasound four months postoperatively, showing parenchyma with homogeneous echogenicity without evidence of focal lesions.*

a preoperative diagnosis of a large pseudocyst can be very difficult due to both its indistinct boundaries with the surrounding organs and the presence of adhesions.[10]

For treatment of cysts smaller than 4 cm it is advisable to repeat the CT scan after three months, with a follow-up period of at least 18 months.[7,10] Surgical excision is recommended

in symptomatic cysts larger than 5 cm in diameter because of the risk of malignancy and for functional pseudocysts. The surgical approach includes laparotomy, an open retroperitoneal approach, and laparoscopic approach.[5] Other procedures described are open or laparoscopic cyst unroofing and percutaneous needle aspiration.[10] The final diagnosis will be provided by pathology examination after the surgical procedure.

CONCLUSION

There are several ways to treat adrenal pseudocysts, depending on the characteristics of the lesion, the surgeon's experience and skills, and local resources.[10]

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