ADRENAL CAVERNOUS HEMANGIOMA: IS PRESURGICAL DIAGNOSIS WITH IMAGING TESTS POSSIBLE

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Summary.- OBJECTIVE: To describe a case of adrenal cavernous hemangioma in a 67 year old man who presented left lumbar pain.

METHODS: Abdominal ultrasound, contrast enhanced ultrasound of the lesion, abdominal-pelvic CT scan, and then left adrenalectomy and pathology were performed.

RESULTS: Imaging studies showed a large solid-cystic mass with 12 x 11 cm diameters in the left adrenal gland, well defined, with calcifications, which showed peripheral arterial globular contrast enhancement on CT and ultrasound. The lesion displaced neighboring structures without other findings in the abdominopelvic study. The pathology report after adrenalectomy was: cavernous hemangioma with calcifications, ossifications and necrosis.

CONCLUSIONS: Cavernous hemangioma is a rare cause of adrenal mass. The globular peripheral contrast uptake and gradual filling of the lesion on dynamic imaging studies (Ultrasound or CT) and phlebolith type calcifications suggest the diagnosis of typical angioma. However, the presence of thrombosis, necrosis and calcifications in large lesions confer an unusual dynamic behavior and force pathology for definitive diagnosis.

Keywords: Cavernous hemangioma. Adrenal. CT. Ultrasound. Ultrasound contrast agent.

Resumen.- OBJETIVO: Describir un caso de hemangioma cavernoso suprarrenal en un paciente de 67 años que presentaba dolor lumbar izquierdo.

MÉTODOS: Se realizó ecografía abdominal, ecografía de la lesión con ecopotentenciador y TC multidetector abdomino-pélvico. Se practicó suprarrenalectomía izquierda y estudio histológico.

RESULTADOS: En las pruebas de imagen se apreció en el área suprarrenal izquierda una gran masa sólido-cística de 12 x 11 cm de diámetro, bien delimitada, con calcificaciones groseras, que presentaba realce arterial de contraste y de ecopotentenciador de morfología globular en su porción periférica. Dicha lesión desplazaba estructuras vecinas sin infiltrarlas, siendo el resto del estudio abdominopélvico normal. El resultado de la pieza de suprarrenalectomía fue: hemangioma cavernoso con calcificación, osificación y necrosis.

CONCLUSIONES: El hemangioma cavernoso es una causa rara de masa suprarrenal. La captación periférica globular de contraste iodado o de ecopotentenciador y relleno progresivo de la lesión en el estudio dinámico de imagen (Eco o TC) así como las calcificaciones tipo “flebolitos” sugieren el diagnóstico de angioma típico. Sin embargo la presencia de trombosis-necrosis y calcificaciones en lesiones de gran tamaño le confieren un comportamiento dinámico atípico y obligan al estudio anatomo-patológico para establecer un diagnóstico definitivo.

Keywords: Hemangioma cavernoso. Suprarrenal. TC. Ecografía. Ecopotentenciador.
INTRODUCTION

The adrenal hemangioma (AH) is a rare cause of adrenal mass usually discovered incidentally during the study of other processes or in the staging/monitoring of cancer patients, included in the group of so-called “incidentalomas,” with a difficult preoperative diagnosis and creates management problems in these patients (1-3).

CASE

Sixty-seven years old patient, with hypertension controlled with medical treatment without other relevant history, who had left lumbar pain. Physical examination had no findings. Radiological tests (abdominal ultrasound, ultrasound with contrast agent and CT scan) showed a large solid-cystic mass, with 12 x 11 cm in the left adrenal area, which displaced the left kidney and laterally the spleen and splenic flexure of the colon. The lesion had calcifications and hypodense areas suggestive of necrosis. In the ultrasound study with contrast agent, there was a early contrast enhancement predominantly peripheral, like it was in the CT (Figures 1 and 2). No gradual filling was seen. There were no other pathological findings in imaging tests.

Biochemical and hormonal (amines, cortisol, dopamine, epinephrine and norepinephrine) were normal.

The patient underwent surgery, left adrenalectomy was performed and the retroperitoneal mass was removed, with open left subcostal incision, the postoperative period was uneventful. The histopathological diagnosis was cavernous hemangioma with foci of necrosis, calcification and ossification (Figure 3).

The patient is currently asymptomatic and without any sign of disease, following his regular checks.

DISCUSSION

AH, first described by Johnson and Jeppesen in 1955, is a rare benign vascular mesenchymal tumor (0.01% of autopsy cases from the AFIP series and 1-2% of TAC made) which diagnostic and management criteria are not well established, unlike most common locations like the skin or liver (4, 5).

Women are affected often than men (2:1), between the third-seventh decades of life and histological type are usually cavernous, hormonally silent and asymptomatic until they reach a significant size and produce pain or compression of adjacent organs (only three cases have been described as a cause of retroperitoneal hemorrhage with hypovolemic shock). It is rarely associated with Kasabach-Merritt syndrome (consumptive coagulopathy). They are usually sporadic but in some cases may be part of a pattern of congenital disease: Rendu-Osler-Weber, Von Hippel-Lindau or Sturge-Webber syndrome (3-7).

Imaging studies show unilateral mass with a size between 2-25 cm, usually above 10 cm, heterogeneous, with cystic areas on ultrasound, hypodense foci on CT and heterogeneous signal on MR sequences. They may have calcifications like phleboliths (rounded calcifications lucid center) and fat.

Finally, dynamic contrast (ultrasound contrast agent, iodinated contrast or gadolinium) show a globular peripheral arterial uptake with gradual filling of the lesion in later phases, this behavior being the most typical radiological data of the lesion, which however is affected by changes of necrosis and hemorrhage, giving it an unusual appearance it difficult to diagnose preoperatively (7-9).

The differential diagnosis of AH is further complicated if we consider that any of these features are also present.

Figure 1. Abdominal ultrasound: heterogeneous large solid-cystic adrenal mass.
in other lesions, calcifications have been described in pheochromocytomas, adenomas, adrenal carcinomas and metastases; and fat in adenomas/carcinomas and even peripheral filling has been reported in other lesions. For these reasons (as opposed to other lesions such as adenomas and adrenal myelolipoma, which can be characterized with CT) the AH preoperative diagnosis is unusual.

This fact joined to the frequent incidental diagnosis of adrenal lesions (so-called “incidentalomas”, with a prevalence of 0.4 to 4.4%, with a large percentage, more than 70% benign) and being the adrenal gland a target organ of metastasis, have led many authors to attempt to characterize the AH, like the hepatic angioma, without good results, because of the overlap with other injuries. Actually symptomatic incidentalomas or those which are greater than 6 cm derives in surgery intervention, because the risk of carcinoma is by some series more than 35%. Between 4-6 cm (3 cm as lower limit for some authors, because above this diameter, the percentage of bleeding, hemorrhage and necrosis is greater) management depends on the clinical situation, age and history of neoplasms. If the lesion has a diameter smaller than 3-3,5 cm and typical imaging features, it can be followed without any surgery. PET study also provides important data in differentiating malignant lesions (like metastases) from angiomas. Adrenal biopsy is not performed at all sites (it has a high rate of complications, mainly bleeding, 3%) and in our limited experience (J Alcázar and AJ Márquez, 1998) in a case of adrenal mass in a patient with carcinoma lung was not sufficient to establish the diagnosis, and it precised open biopsy (10, 11).

Resection of these lesions is performed by open surgery, although some cases have been reported results by retroperitoneoscopy (10-12).

CONCLUSIONS

The cavernous hemangioma is a rare cause of adrenal mass, which has a difficult preoperative diagnosis. Some data imaging (typical lesions) may suggest the
etiology and if his diameter is less than 3 3,5 cm can be managed conservatively. In larger lesions or atypical behavior in the imaging is preferred surgical treatment and pathology for a definitive diagnosis.

REFERENCES AND RECOMMENDED READINGS
(*of special interest, **of outstanding interest)


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