given its chronic nature, is a frequent cause of cirrhosis. The case we describe demonstrates the possible treatment of the occlusion, which can modify the clinical situation and influence the treatment of any possible HCC.

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Adrenal Ganglioneuroma in a Pregnant Woman☆

Ganglioneuroma suprarrenal en una mujer gestante

Adrenal tumors detected in pregnancy are uncommon but potentially very serious because the pathophysiological impact on the mother and fetus can be severe.[1] Ganglioneuromas are uncommon neurogenic tumors that are derived from the neural crest and are located primarily in the posterior mediastinum and/or retroperitoneum. In 20%–25% of cases, they occur in the adrenal gland,[2,3] although their diagnosis during pregnancy is exceptional.[4] However, these tumors that are diagnosed during gestation require different management, as it is necessary to avoid radiological studies that expose the fetus to important radiation, teratogenic medications and surgery, which should be deferred as long as possible. We present a case of adrenal ganglioneuroma diagnosed during gestation, where surgical treatment was deferred.

A 38-year-old, 25-week pregnant woman with hepatitis B virus was diagnosed with a right adrenal mass on a prenatal ultrasound. After this finding, a complete adrenal functional study was performed, obtaining an aldosterone level of 466 pg/mL (normal: 7–150) and the remaining values were normal (serum cortisol, ACTH, catecholamines and cortisol). Due to the pregnancy, an abdominal computed tomography (CT) scan was not performed to avoid radiation to the fetus. The magnetic resonance imaging (MRI) study revealed a well-defined right adrenal mass measuring 11 × 7.5 cm, and the internal signal was heterogeneous in T2, suggestive of ganglioneuroma (Fig. 1A). As it was non-functioning and MRI showed no signs of malignancy, the patient was periodically monitored. A planned cesarean delivery was indicated, which was conducted without complications for the mother or the child. After delivery, the study was completed with an abdominal CT scan, which confirmed the MRI findings and showed no further growth (Fig. 1B). The repeated hormonal study was normal, with normalized aldosterone levels. With a diagnosis of an undefined adrenal tumor, the mass was removed one month after cesarean section. There were no postoperative complications. The histopathological study defined the tumor as an adrenal ganglioneuroma, and the patient continues to be asymptomatic 7 years after surgery.

Because of their infrequency, there are few published series of adrenal ganglioneuromas.[5–9] Patients are usually young (30–50 years of age), with a slight predominance of females and

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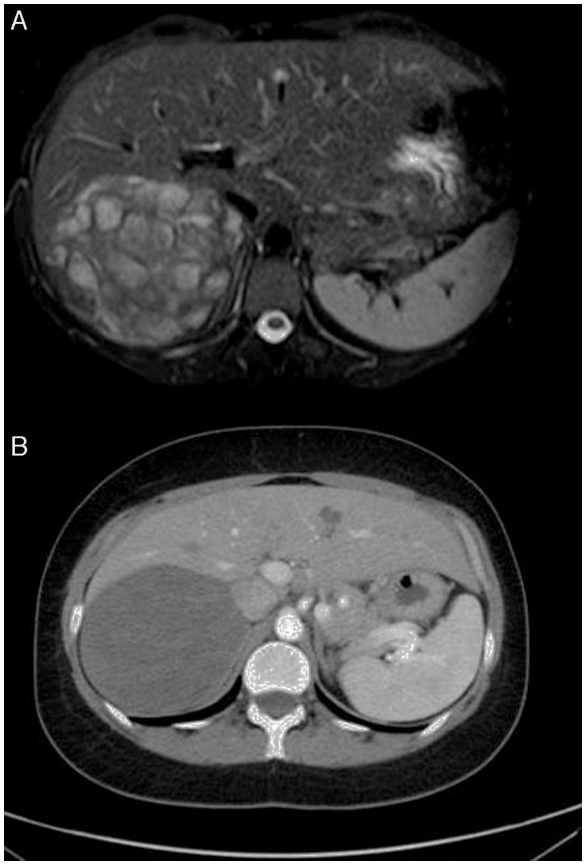

Fig. 1 – (A) Magnetic resonance image identifying a well-defined right adrenal mass, measuring 11 × 7.5 cm in diameter; (B) computed tomography image demonstrating a well-outlined adrenal mass that had not increased in size compared to the previous MRI study.

right-side involvement. The diagnosis is usually made incidentally. In these patients, it is important to determine whether the lesion is functioning and/or malignant in order to assess the possibility of delaying definitive treatment until after childbirth. It should be remembered that most are usually non-functioning, so waiting for the fetus to come to term is therefore possible. However, certain ganglioneuromas secrete catecholamines, aldosterone, cortisol and/or testosterone, which can lead to hypertension, Cushing's syndrome or virilization of the patient. This is particularly serious during pregnancy as it increases the risk for eclampsia. In our case, the fact that there was an increase in plasma aldosterone levels did not mean that it was a functioning tumor, since the increase of maternal progesterone during gestation acts as an antagonist of renal mineralocorticoid receptors, thereby increasing urine sodium levels and thus increasing plasma aldosterone levels.[1] Their normalization after childbirth confirms this in our case. If elevated aldosterone levels persist, the patient should be tested for hyperaldosteronism. Finally, we should mention that the majority of these lesions are benign, and few patients have presented malignant degeneration.[5–9]

The diagnosis of adrenal incidentaloma in pregnancy requires an appropriate approach to its diagnosis and treatment according to functionality, size and radiological characteristics, while contemplating the risks/benefits of surgery. Thus, in tumors that are functioning, malignant or possibly malignant, or that cause important symptoms due to their large size, tumor resection should be considered, which as a rule is conducted in the second trimester. If diagnosed in the third trimester, surgery should be delayed until after childbirth, unless the lesion poses a serious threat to the lives of the mother and the fetus.

If there is a high suspicion that the incidentaloma is a ganglioneuroma due to its radiological characteristics and the benign nature of the lesion, it is reasonable to postpone surgery until after childbirth, as in our case. In this situation, MRI is the basic test used to study an adrenal tumor during gestation.[4] In our case, although the tumor was very large, we decided not to perform surgery during gestation because it was non-functioning, there were no radiological findings suggestive of malignancy, and given the state of advanced gestation.

Authorship

1. Manuscript concept and design: A. Ríos and L.F. Alemón.
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3. Data analysis and interpretation: A. Ríos, L.F. Alemón, J. Ruiz and J.M. Rodríguez.
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Liver Abscess After Endoscopic Retrograde Cholangiopancreatography With Presence of *Actinomyces naeslundii*☆

Absceso hepático post-colangiopancreatografía retrógrada endoscópica con presencia de *Actinomyces naeslundii*

The liver is the most common location of intraabdominal abscesses, accounting for 48% of these lesions. The main predisposing factors for their occurrence are: diabetes mellitus, immunosuppression, cholelithiasis, biliary tract infections, acute pancreatitis or liver transplantation. Hepatic actinomycosis is a rare clinical entity that is difficult to diagnose and requires complex treatment.[1] There are very few cases of hepatic abscesses caused by *Actinomyces* spp. reported in the literature,[1–3] and the most common locations are the cervicofacial area (50%–90%) and the thoracic cavity (15%–45%).[4]

We present the case of a 66-year-old male in treatment for diabetes, with good glycemic and lipemic control. He came to the emergency room for abdominal pain in the right hypochondrium that had been progressing over the course of a week. Total bilirubin was 2.69 μg/dL, gamma-glutamyl-transferase 1450 μU/L, lactate dehydrogenase 186 μU/L and alkaline phosphatase 211 μU/l. Abdominal ultrasound demonstrated cholelithiasis with no signs of cholecystitis or dilatation of the intrahepatic biliary tract. As it was impossible to rule out alterations in the extrahepatic bile duct due to the presence of gas, endoscopic ultrasound was conducted, which showed images compatible with choledocholithiasis. Therefore, endoscopic retrograde cholangiopancreatography (ERCP) was performed, resulting in the extraction of a small stone. The patient presented acute pancreatitis after the procedure but responded well to conservative medical treatment.

The follow-up computed tomography (CT) revealed 2 peripancreatic collections secondary to post-ERCP pancreatitis. Two months later, magnetic resonance cholangiopancreatography was performed prior to scheduled cholecystectomy, at which time an abscess was observed in hepatic segment V, measuring 4.4 cm×5 cm, that had not been seen on the previous CT scan; meanwhile, the peripancreatic collections had disappeared (Fig. 1). With these findings, we decided to hospitalize the patient, performing percutaneous drainage of the abscess and administering empirical intravenous antibiotic therapy with piperacillin/tazobactam. The cultures showed growth of *Streptococcus anginosus* and *Staphylococcus epidermidis*. A follow-up ultrasound performed 3 days after percutaneous drainage demonstrated a decrease in the size of the perivesical collection. The patient was discharged with oral antibiotic therapy, including ciprofloxacin and linezolid for 7 days. Subsequently, after obtaining the complete antibiogram of the culture performed and the finding of *Actinomyces naeslundii*, the patient was advised of the need to complete antibiotic treatment with intravenous ertapenem for 4 weeks more on an outpatient basis.

The patient remained asymptomatic over the course of 4 months, during which imaging tests demonstrated the resolution of the hepatic abscess, until a laparoscopic cholecystectomy was performed, which was conducted without incident. The pathology study showed a gallbladder with xanthogranulomatous areas, signs of chronic cholecystitis and adenomyomatous hyperplasia. At the same time, a sample of the gallbladder contents was sent for culture, which was negative.

Actinomycosis is a chronic granulomatous infection caused by Gram-positive bacteria that make up the oropharyngeal, digestive and female genitourinary tract flora.[1,2] Intra-abdominal infection is usually polymicrobial in nature, and *Actinomyces israelii* is the most frequently isolated species in cultures from intra-abdominal organs.[3] It is an uncommon cause of hepatic abscesses, and it is usually secondary to processes involving disruption of the digestive tract mucosa, such as acute perforated appendicitis, gastrointestinal tumors or traumatic procedures (biopsies or surgeries).[1,3,5] There have

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