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Scientific letters

Bilateral Adrenal Hemorrhagic Infarction as a Rare Cause of Acute Abdominal Pain in the Immediate Postoperative Period of Colonic Surgery☆

Infarto hemorrágico suprarrenal bilateral como causa infrecuente de dolor abdominal agudo durante el postoperatorio inmediato de la cirugía de colon

Adrenal hemorrhage (AH) is observed in 15% of necropsies of patients who died due to septic or hypovolemic shock.[1] Postoperative AH is uncommon and has fundamentally been reported in patients with previous risk factors, such as coagulation disorders or autoimmune diseases, and related with surgical stress as well as treatment with low molecular weight heparin.[2]

We present the case of a 66-year-old male with a personal history of arterial hypertension, left bundle branch block and colon diverticulosis, who was being treated with acetylsalicylic acid, Lisinopril and simvastatin. In addition, he was a heterozygous factor V Leiden carrier, which had been diagnosed after an episode of *amaurosis fugax*.

The patient was referred to the surgery department with the diagnosis of non-stenosing adenocarcinoma of the sigmoid colon, with no evidence of distant disease. After completing preoperative studies and suspending antiplatelet medication according to protocol, laparoscopic sigmoidectomy was performed. The postoperative period was uneventful, and he was discharged on the 4th day post-op, with no complications and with antithrombotic prophylaxis (subcutaneous enoxaparin 40 mg/24 h, adjusted to weight [78 kg]). The pathology report confirmed the existence of an adenocarcinoma of the colon (stage pT1N0 Mx).

After discharge from the hospital, the patient came to the emergency department on the 8th day post-op due to acute-onset lumbar pain associated with profuse sweating, nausea, no fever and no altered intestinal rhythm. On examination, the patient was haemodynamically stable, with a slightly distended epigastrium and signs of generalised peritoneal irritation, with a normal appearance of the surgical wound. Blood work showed 23×10^3 μl leukocytes (87% neutrophils), glucose 202 mg/dl, potassium 4.8 mmol/l, natraemia 134 mmol/l and venous blood gases with lactic acidosis 60 mg/dl. Abdominal CT scan detected no surgical complications, although a new right suprarenal nodule measuring 38 mm × 22 mm was observed. The nodule demonstrated homogenous density and could not be properly characterised, so follow-up was recommended (Fig. 1). With the suspected diagnosis of postoperative paralytic ileus, the patient was readmitted to hospital. After 72 h without improved symptoms, a second abdominal CT scan was done, which revealed 2 bilateral suprarenal nodules (right 42 mm×24 mm, and left 45 mm × 25 mm), with homogenous density compatible with bilateral AH (Fig. 2).

The analysis that was requested after suspicion of AH showed data compatible with acute adrenal insufficiency: diminished cortisolaemia (2.45 μg/dl), hyponatraemia 133 mmol/l and hyperkalaemia 5.6 mmol/l. The ACTH stimulation test confirmed the diagnosis of insufficiency related with the bilateral AH experienced during the post-op period. The patient's symptoms improved with substitutive hormone treatment with glucocorticoids (hidroaltesone), and he was discharged 12 days after readmittance. Currently, the patient is being followed up due to his residual chronic adrenal insufficiency.

During an uncomplicated postoperative period, AH is uncommon and has been described in association with trauma or renal surgery and with the use of unfractionated heparin.[3] After a review of the recent literature, we have found no reported cases of AH after laparoscopic colon surgery.

☆ Please cite this article as: Sánchez de Molina Rampérez ML, Pastor Idoate C, López-Botet Zulueta B, Cortes Guiral D, Celdrán Uriarte Á. Infarto hemorrágico suprarrenal bilateral como causa infrecuente de dolor abdominal agudo durante el postoperatorio inmediato de la cirugía de colon. Cir Esp. 2015;93:666–668.

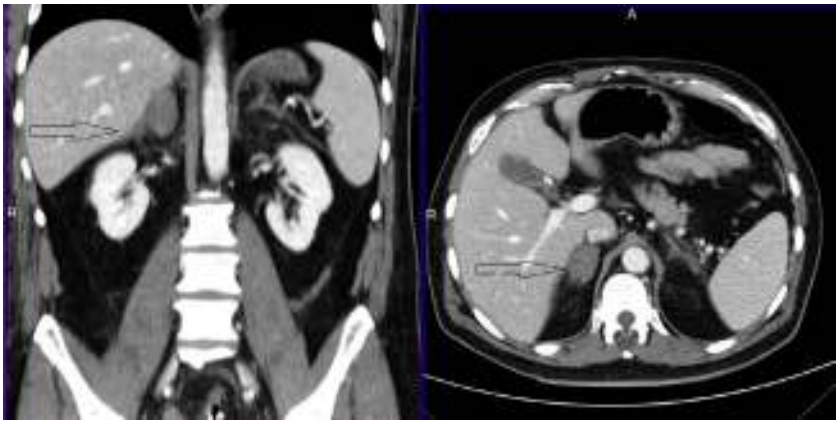

Fig. 1 – Right adrenal nodule measuring 38 mm×22 mm.

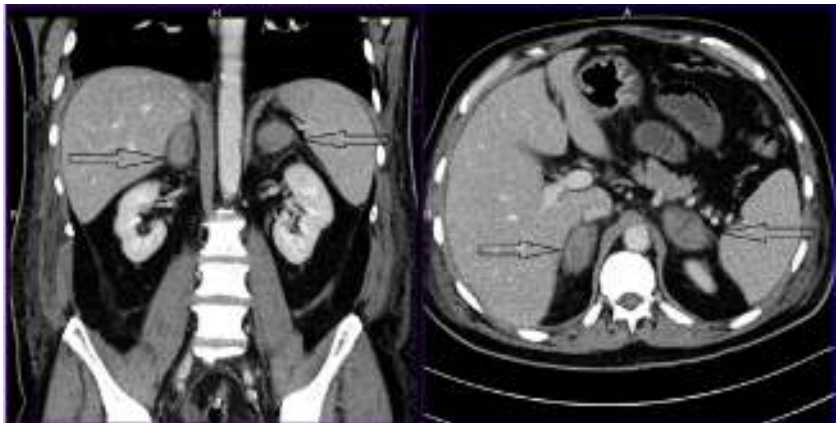

Fig. 2 – Bilateral adrenal nodules compatible with bilateral AH (right: 42 mm×24 mm; left: 45 mm×25 mm).

In our case, the aetiology of AH is multifactorial. We present a patient who is a heterozygous factor V Leiden carrier, which increases the risk for thromboembolic venous disease by seven-fold,[4] who was subjected to surgical stress and received postoperative treatment with enoxaparin.

In a clinical AH analysis of 277 cases, Rao et al. described that the most frequent symptom was abdominal pain, which was present in 2/3 of patients and located in the lumbar or epigastric regions. Other symptoms were also associated, such as fever (detected in half of cases), peritonism, hypotension, blurred vision, anorexia and weakness. The most representative laboratory data of AH collected from 122 cases were hyponatraemia, hyperkalaemia and azotaemia, attributed to adrenal insufficiency and present in 56% of cases, and signs of occult bleeding with a drop in haematocrit of 10% or in haemoglobin of 2 g/dl, detectable in half of cases. Treatment consists of intravenous cortisone and glucosaline.[5]

As observed in the case presented, the symptoms and the initial analytical studies were similar to AH at onset; however, in the context of postoperative abdominal surgery, they are easily attributable to a postoperative complication. Furthermore, the patient received fluid therapy from the time of admittance, which may have disguised previous analytical alterations. Therefore, the suspected diagnosis was delayed until a second imaging test was done. Once the diagnosis was confirmed, substitutive hormone treatment was able to control the symptoms and residual chronic adrenal insufficiency was expected.

We consider this case interesting as it deals with a complication after colon surgery with confusing symptoms that are easily attributable to a postoperative surgical complication. Although bilateral AH is an uncommon complication in daily clinical practice, it should not be overlooked by surgeons, especially in those patients with prior coagulation disorders who are to undergo surgery and treatments with low-molecular-weight heparin.

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María Luisa Sánchez de Molina Rampérez[a*], Carlos Pastor Idoate[a], Begoña López-Botet Zulueta[b], Delia Cortes Guiral[a], Ángel Celdrán Uriarte[a]

[a]*Servicio de Cirugía General y del Aparato Digestivo, Hospital Universitario Fundación Jiménez Díaz, Madrid, Spain*
[b]*Servicio de Radiodiagnóstico, Hospital Universitario Fundación Jiménez Díaz, Madrid, Spain*

**Corresponding author.*
E-mail address: mluisa.sanchezdemolina@hotmail.com (M.L. Sánchez de Molina Rampérez).

2173-5077/

Severe Thrombocytopenia After Laparoscopic Distal Pancreatectomy With Splenic Preservation and resection of Splenic Vessels☆

Trombocitopenia severa después de una pancreatectomía distal con preservación esplénica y resección de los vasos esplénicos por laparoscopia

For distal pancreatectomy, there are 2 competing spleen-preserving techniques: one that preserves the splenic vessels[1]; and the Warshaw technique, in which the splenic vessels are ligated at their origin and resected while preserving the left gastroepiploic and short gastric vessels.[2] The disadvantages of this latter technique are associated with immediate complications related with inadequate perfusion of the spleen (infarction) and later complications involving the appearance of varices along the gastric wall, which theoretically present the risk for a gastric bleeding, and increased spleen size, which entails the risk for hypersplenism with haematological alterations.

Case Report

The patient is a 37-year-old woman with a history of distal pancreatectomy without preservation of the splenic vessels (Warshaw technique) in 2008, due to a benign solid pseudopapillary tumour of the pancreas. During follow-up, the patient was sent to the haematology department to study and monitor pancytopenia (platelet count 950 000/l [normal: 130 000–400 000], leukocytes 2100/l [normal: 4000–11 000], haemoglobin 96 g/l [normal: 120–170]). In 2010, a computed tomography (CT) scan detected a 17 cm splenomegaly and collateral circulation in the gastrohepatic ligament, gastrosplenic ligament and in the thickness of the gastric walls. The persistent haematological alterations, which included severe thrombocytopenia, required another CT scan in February 2014, which revealed a very significant increase in the number and size of the oesophagogastric, gastrohepatic and gastrosplenic varices, a permeable portal vein and splenomegaly measuring 17 cm (Fig. 1). Using gastroscopy, gastric varices in the fundus and greater curvature were observed.

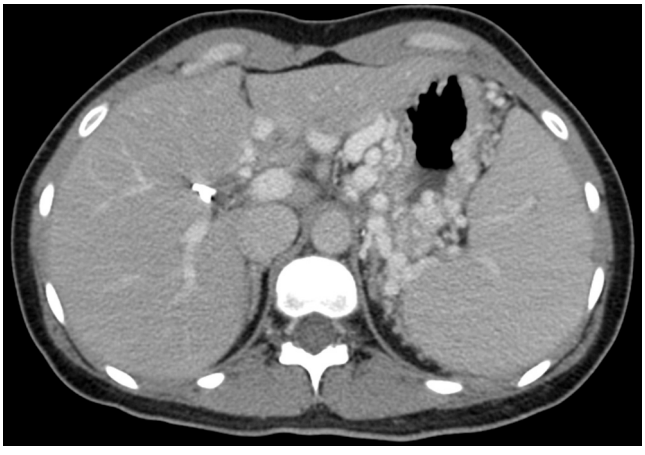

Fig. 1 – Computed tomography showing a splenomegaly measuring 17 cm, gastric varices and varices in the gastrohepatic ligament.

☆ Please cite this article as: Fernández-Cruz L, Pelegrina A. Trombocitopenia severa después de una pancreatectomía distal con preservación esplénica y resección de los vasos esplénicos por laparoscopia. Cir Esp. 2015;93:668–670.