

Massive Hemoperitoneum Secondary to Splenic Rupture After Extracorporeal Lithotripsy[☆]



Hemoperitoneo masivo secundario a rotura esplénica tras litotricia extracorpórea

Both immediate and late-onset splenic rupture are frequent after blunt abdominal trauma, and this phenomenon has been well documented in the medical literature. Although less common, cases of traumatic splenic rupture in pathological spleens are also widely reported in the literature. However, the phenomenon of splenic rupture secondary to trauma caused by extracorporeal shock wave lithotripsy (ESWL) is an exceptional occurrence. Only 11 cases have been published in the literature, including the case presented in this case report. Although splenic injury is uncommon, it should be considered in the differential diagnosis of patients with acute abdomen after ESWL.

The ESWL technique is widely used for the treatment of renal and ureteral lithiasis. It is considered a very safe technique, but not without complications, although the great majority are minor complications. Major complications, which cause morbidity or mortality, are uncommon and affect less than 1% of patients undergoing this technique.¹

We present the case of a 62-year-old woman with a history of type II diabetes mellitus and left renal lithiasis measuring 10×10 mm in the upper pole of the left kidney. The patient was treated with ESWL for recurrent colic and discharged after no incidents. At home 24 h later, she began to experience severe pain in the left hypochondrium associated with episodes of fainting, sweating, hypothermia and pallor. The patient was brought to the emergency room with a mean blood pressure of 60 mmHg, 140 bpm and symptoms compatible with hypovolemic shock.

Emergency ultrasound was performed in the ER exam room due to the hemodynamic instability of the patient, showing a globular liver that was slightly large in size, increased echogenicity probably related with steatosis, and no focal lesions. The distended gallbladder showed walls with normal thickness and no lithiasis. The portal vein was normal in size. The spleen was completely unstructured with multiple linear hypoechoic images/collections, one of which presented a certain nodular morphology, suggesting splenic rupture with areas of hematoma. The kidneys showed normal size and echogenicity, good corticomedullary differentiation, and no urinary tract dilatation. Non-obstructive left kidney stones were observed. The catheterized bladder was empty. Abundant free fluid was detected in all spaces, suggestive of massive hemoperitoneum (Fig. 1).

After diagnosis, the patient was informed and transferred to the operating room within 10 minutes, with a hemoglobin level of 8.3 g/dL. She underwent emergency exploratory laparotomy, which revealed hemoperitoneum and splenic rupture (Moore grade IV), and a splenectomy was performed.

The patient's postoperative recovery was satisfactory, and she was discharged on the 8th day post-op.

The pathology study showed a loss of capsular surface, tearing and multiple areas of bleeding, with no underlying disease.

In a study about ESWL complications in 4000 patients, Ruiz Marcellan and Ibarz Servio¹ classified these complications as either early or late-onset. The rate of early-onset complications was 17.5%. These included: colic pain, 8.7%; neurovegetative syndrome, 3.8%; fever, 2.4%; renal discomfort, 2%; perirenal hematoma, 0.3%; urinary sepsis, 0.1%; non-specific abdominal pain, 0.1%; intense headache, 0.06%; need for transfusion, 0.005%; and pancreatitis, 0.005%.¹

Spleen damage following lithotripsy is extraordinarily rare. In a 2008 review of the literature conducted in Medline (including pre-Medline), Cochrane and Embase, Doran and Foley reported finding only 9 cases.²⁻¹⁰ Subsequent to this article, in PubMed we have only found one publication reporting a new case in 2015.¹⁰

All the cases described in the literature were treated with total splenectomy, as was ours. None of the patients had a conservative management of the splenic trauma, nor was more conservative surgery used, which is currently the approach in cases of blunt splenic trauma. This fact is striking given the high rate of splenic trauma treated conservatively, and it is reasonable to assume that these patients described reflect the more severe end of the splenic injury spectrum.

In our patient, as in the 10 cases described in the literature, we performed splenectomy. Conservative management was

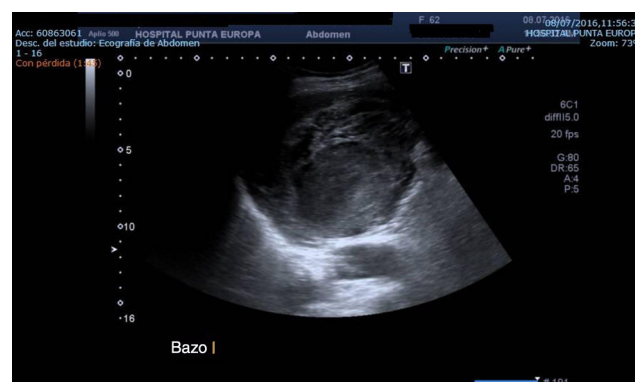


Fig. 1 – Completely unstructured spleen with multiple linear hypoechoic collections/images, some with a certain nodular morphology, suggestive of splenic rupture with areas of bleeding.

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rejected when we found a situation of hypovolemic shock secondary to massive hemoperitoneum due to splenic rupture, and conservative surgery of the spleen was ruled out intraoperatively because it was completely unstructured (Moore grade IV).

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Conversion to Segment 4-1 ALPPS Associated With Right Bile Duct Section and External Tube for the Control of Progression Through the Bile Duct of Colorectal Metastases[☆]



Conversión a ALPPS segmento 4-1 con sección de vía biliar derecha y drenaje externo como técnica de control de progresión tumoral biliar de metástasis colorrectal

Surgical resection continues to be the best treatment option for colorectal cancer liver metastases. In cases with bilobar metastases, the residual liver volume (RLV) is usually a limiting factor. Portal vein ligation or embolization makes the necessary RLV attainable in 3-4 weeks.¹ With the ALPPS technique and its variations, important hypertrophy can be achieved in one week. However, it is not always functional, and the reported morbidity and mortality rates, although variable, are high, while the long-term oncological results are unknown.²⁻⁵

We present the case of a 59-year-old patient with no prior history of interest who had been diagnosed 6 years earlier with a moderately differentiated adenocarcinoma in the descending colon (pT3N2M0, mutated k-ras). She was treated with left hemicolectomy and 12 cycles of adjuvant FOLFOX at a referral hospital. Three years later, 2 hepatic metastases were detected in segments 2 and 7, which were treated with left lateral sectionectomy and radiofrequency ablation in segment 7. The patient was administered 12 cycles of perioperative FOLFIRI-bevacizumab. Two years later, hepatic recurrence

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