Notas Clínicas

Cirugía de control de daños para el manejo de hematoma hepático roto secundario a trastorno hipertensivo del embarazo

Damage control surgery for the management of hepathic hematoma rupted secondary to hypertensive pregnancy disorder

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RESUMEN

Los autores presentan un caso de hematoma subcapsular roto y del cuarto segmento del hígado en una mujer de 26 años, en la semana 36 del embarazo, complicada por preeclampsia. Los signos clínicos de preeclampsia se asociaron con dolor en el hipocondrio derecho y hallazgos de laboratorio compatibles con un verdadero síndrome HELLP. Se realizó una laparotomía de emergencia con rotura hepática y hemoperitoneo. Se realizó una cirugía de control de daños, con drenaje de hemoperitoneo, packing hepático y uso de una bolsa de Bogotá. El desempaque se realizó a las 24 horas y la colocación de la terapia de VAC asociada con la malla con el posterior cierre de la fascia dentro de los 10 días. Se presentan diferentes opciones terapéuticas que incluyen intervenciones médicas, quirúrgicas y radiológicas. No se puede definir una estrategia única. El enfoque multidisciplinario parece obligatorio. La cirugía debe permanecer lo menos agresiva posible.

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Palabras clave: embarazo, preeclampsia, eclampsia, síndrome de HELLP, ruptura hepática.

ABSTRACT

The authors report a case of broken subcapsular hematoma and fourth segment of the liver in a 26-year-old woman, at week 36 of pregnancy, complicated by preeclampsia. The clinical signs of preeclampsia were associated with pain in the right hypochondrium and laboratory findings compatible with a true HELLP syndrome. An emergency laparotomy was performed with hepatic rupture and hemoperitoneum. A damage control surgery was performed, with drainage of hemoperitoneum, gauze gasket and use of a Bogota bag. The unpacking was done at 24 hours and the placement of the VAC therapy associated with the mesh with the subsequent closure of the fascia within 10 days. Different therapeutic options are presented that include medical, surgical and radiological interventions. You cannot define a unique strategy. The multidisciplinary approach seems mandatory. The surgery should remain as aggressive as possible.

Keywords: pregnancy, preeclampsia, eclampsia, HELLP syndrome, hepatic rupture.

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INTRODUCTION

Hypertensive disorders in pregnancy are an ongoing problem, this management entails a complex interdisciplinary team, capable of treating the patient within a sphere of the least complications as possible. The spectrum of hypertensive disorders such as preeclampsia, eclampsia, and HELLP syndrome range from mild to severe. HELLP syndrome occurs in about 1 to 2% of pre-eclampsia patients of whom develop subcapsular liver hematomas in less than 2%, this complication may occur between 28 and 36 weeks of pregnancy. Maternal mortality for this entity ranges from 18% to 86%[1,2]. We present a case report from a patient with a hematoma secondary to hepatic rupture in the context of HELLP syndrome requiring surgical procedures with damage control. A critical analysis of the case with a review of recent medical literature is presented.

CASE REPORT

A 26-year-old female presented to her local hospital in the 36st week with a five-day history of severe right upper quadrant and epigastric pain, and recent onset vomiting. On presentation, her blood pressure was 160/110 mm Hg, she had a sinus tachycardia at a rate of 115 beats per minute and urinalysis showed 4+ proteinuria and 2+ blood. Abdominal examination revealed right upper quadrant tenderness. The remainder of the examination was normal. Of note, there was no PV bleeding, she was not icteric and there was peripheral edema. Medical management and labor induction were undertaken by obstetrician/gynecologist (OBGYN) service. On that evening a primary cesarean section was performed with delivery of a viable male infant. In the early postoperative period, the patient presented severe epigastric pain followed by refractory shock, accompanied by signs of peritoneal irritation. The patient was taken to the laparotomy, no images were performed. Laparotomy revealed hepatic rupture at IV segment with subcapsular hematoma and two hundred milliliters of clotted blood were evacuated from the peritoneal cavity intraoperatively, and the diagnosis of hepatic rupture of the IV lobe with partial tearing of the capsula and compromised subcapsular hematoma of the lobe was confirmed. No active bleeding was identified at that time, and damage control surgery was performed by abdominal packaging and Bogota Bag placement. Unpacking was performed 48h later and a VAC (Vacuum Assisted Closure) of fascia was achieved at 72 hours. (**Figure 1**, with mesh placement and full closure of the abdominal cavity).

DISCUSSION

Spontaneous hepatic rupture in pregnancy is an infrequent but life-threatening condition that is strongly associated with significant maternal and perinatal morbidity/mortality. The first most case of a hematoma rupture in pregnancy due to hypertensive pregnancy disorder was described by Abercrombie in 1844[3]. HELLP syndrome is characterized by the elevation of liver enzymes AST, ALT, low platelet count (<100,000 cells/ul), and hemolytic anemia associated with clinical manifestation. The most common symptoms are general discomfort (90%), epigastric or right upper quadrant pain (90%) nausea or vomiting (50%), and some patients could be asymptomatic[4]. The pathophysiology remains unknown to this day, although a relationship has been described with an increase in the inflammatory response in the placenta-liver axis, leading to a state similar to

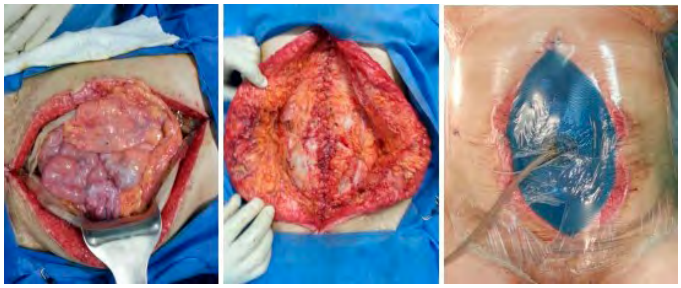

Figura 1

Abdominal wall managed with VAC therapy and sequential closure.

sinusoidal obstruction syndrome (SOS), that generates endothelial damage in the liver. Caused by placental products and vasoactive substances, leading red blood cells to the Disse space, and resulting in a blockage of blood flow in the hepatic sinusoidal vessels, micro thrombosis, hepatocyte ischemia, hepatic distention, and ultimately liver failure[5,6].

Most cases of hepatic rupture are associated with HELLP syndrome, with only a few cases linked to pre-eclampsia/eclampsia without HELLP syndrome. There is a clear predominance in patients with multiple pregnancies as well as a history of hypertensive disorders. Clinical presentation may vary, with epigastric or right upper quadrant (RUQ) pain and irradiation to shoulders being fairly common. It is also associated with symptoms such as nausea, vomiting, and abdominal distension. In the case of hepatic rupture, it is associated with peritoneal irritation and hemodynamic instability. Prognosis of hepatic rupture is variable and constantly changing[1,7] especially depending on early diagnosis and treatment. Pregnancies complicated by HELLP syndrome and subcapsular liver hematoma formation require a well-formulated management plan. Diagnostic methods include abdominal ultrasound, computed tomography and magnetic resonance[2,8].

Ultrasound is an excellent first choice as it is a non-invasive technique and useful for both diagnosis and preliminary assessment [2,6,9], however, an abdominal CT scan is not operator dependent and shows superior sensitivity and specificity. A hemodynamically stable patient might allow for CT scan once pregnancy is terminated. Reassessment must be considered on a patient-basis, with a low threshold for new imaging. Arteriography with selective embolization should be considered as well, in carefully selected patients. Fulminant hepatic failure is a possibility and must be managed accordingly [2,8,9]. Management has changed substantially over the years owing to its high morbidity and mortality. Historical perceptions as stated by Motto and collaborators “No patient will survive without surgical management” have been proven otherwise[10]. Reck and colleagues analyzed a series case reports of liver rupture associated with HELLP syndrome, finding 12% of patients were managed conservatively with percutaneous drainage, the other 88% were admitted for emergency surgery with multiple requirements: laparotomies, perihepatic packing, ligation, segmentectomy, lobectomies and use of fibrin sealing agents in joint maneuvers (such as the Pringle maneuver) to reduce bleeding and visualize the affected segment properly[11].

Early detection of this pathology reduces morbidity and mortality; and so Wilson and colleagues describe a management algorithm in which, during the early stage after diagnosis of HELLP syndrome

and suspicion of its complications, assessment for subcapsular liver hematoma must include fetal status. Patient's hemodynamic/coagulation status and peritoneal irritation are determinants of medical and surgical management. Some authors recommend avoiding hepatic manipulation and the use of blood products at the time of surgery, due to the high risk of non-controllable bleeding. When patients present signs compatible with liver rupture or are hemodynamically unstable, surgical approach is essential as well as the use of compression in areas with bleeding. Surgical resections and even the possibility of a liver transplant is considered in case of fulminant hepatic failure[8]. Wicke et al. found that conservative non-surgical management in stable patients was ideal reviewing a series of 5 cases over a period of 10 years. However, surgical technique for hemorrhage control in unstable patients is definitely a challenge for many surgeons[12,13]. The treatment of hepatic lesions depends on the type of injury causing the hematoma. As shown by Moore et al. in the scale of hepatic lesions, hemodynamic stability and gestational age are of importance, with surgical management being warranted in the previously described scenarios[2].

CONCLUSION

Hepatic rupture due to hypertensive pregnancy disorder is a rare complication of pregnancy but is associated with significant maternal and fetal morbidity and mortality. His treatment is based on multidisciplinary care involving anesthetists, obstetricians, radiologists, surgeons, and pediatricians. Conservative surgical management seems to be the ideal treatment, in order to decrease morbidity and mortality.

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