



## RUPTURED HEPATIC SUBCAPSULAR HEMATOMA CASE REPORT

**Mamadi Kourouma<sup>1</sup>, Hanafi Asmaa<sup>1</sup>, Ahmed Touimi Benjelloun\*<sup>1</sup>, Ajjabdi Mouna<sup>1</sup>, Fichtali Karima<sup>2</sup>,  
Mustapha Benhessou<sup>2</sup>, Said Bouhya<sup>3</sup>**

<sup>1</sup>Resident Service de Maternité Harouchi Centre Hospitalier Ibn Rochd, Faculté de Médecine et Pharmacie, Hassan 2 University, Casablanca, Maroc.

<sup>2</sup>Professor Service de Maternité Harouchi Centre Hospitalier Ibn Rochd, Faculté de Médecine et Pharmacie, Hassan 2 University, Casablanca, Maroc.

<sup>3</sup>Chief Doctor Service de Maternité Harouchi Centre Hospitalier Ibn Rochd, Faculté de Médecine et Pharmacie, Hassan 2 University, Casablanca, Maroc.

**\*Corresponding Author: Ahmed Touimi Benjelloun**

Resident Service de Maternité Harouchi Centre Hospitalier Ibn Rochd, Faculté de Médecine et Pharmacie, Hassan 2 University, Casablanca, Maroc.

Article Received on 20/07/2018

Article Revised on 10/08/2018

Article Accepted on 31/08/2018

### ABSTRACT

Subcapsular hematoma of the liver (HSCF) is a rare complication of pregnancy with high maternal-fetal mortality. This requires a quick diagnosis and a fast and appropriate support. We report a case of broken capsular hematoma of the liver on pregnancy amenorrhea 34 collected at the maternity ward of El Harouchi Hospital while emphasizing the different therapeutic options.

**KEYWORDS:** Pregnancy; preeclampsia; HELLP syndrome; Subcapsular hematoma of the liver ruptured; Maternal and fetal mortality.

### INTRODUCTION

Preeclampsia complicates 2.1% of pregnancies according to a French perinatal survey in 2010.<sup>[4]</sup> 10% of pre-eclamptic women can develop a HELLP syndrome with high maternal-fetal morbidity and mortality. Among the complications, sub-capsular hematoma of the liver is a serious accident that can be complicated by rupture, associated with maternal and fetal mortality of 50 and 80% respectively.<sup>[1]</sup> The first case of liver rupture was described in 1844 by Abercrombie.<sup>[5]</sup> We report a case of broken capsular hematoma of the liver complicating a HELLP syndrome in the context of pre-eclampsia.

### CASE REPORT

A 32-year-old woman with a history of pregnancy-related hypertension estimated at 34 weeks of amenorrhea treated with alpha-methyl-dopa (1 ccx3 / day). Admitted to maternity emergencies for intense pain of the right hypochondrium, of recent appearance, occurring by crises and increasing with inspiration. There was no associated intestinal transit disorder, nor jaundice. At admission, the patient was conscious with a Glasgow score (GCS) at 15/15. Blood pressure at 13 / 08mmHg, accompanied by significant urinary proteinuria and respiratory rate at 40c / min, heart rate at 130b / min. The physical examination revealed a clear defense of the right hypochondrium, the patient was out

of work, without metrorrhagia with active fetal movements present.

An obstetrical ultrasound revealed an active mono-fetal pregnancy with a cardiac rhythm at 140b / min and a corresponding biometry at 33-34 weeks of amenorrhea, with no image of placental abruption.

Biology found hepatic cytolysis (ASAT: 211 IU / L, ALT: 239 IU / L), without cholestasis. The hemogram revealed thrombocytopenia at 81 000 platelets / mm<sup>3</sup>, a hematocrit at 34.3%, anemia at 9g / l. An LDH level of 1037 IU / L. An increase in uric acid and retained kidney function.

Abdominal ultrasonography revealed a peritoneal effusion of average abundance with subcapsular hematoma of the liver, abdominopelvic CT showed two subcapsular hematomas of the liver, one opposite the right liver measuring 30mm spread over the entire body. right liver, and the other opposite the left liver making 25mm maximum thickness extended on the height of segment II of the liver, with a haemoperitoneum of average abundance (Figure 1).

Caesarean section performed under general anesthesia for maternal-fetal rescue by median laparotomy revealed a haemoperitoneum evaluated at one liter immediately evacuated allowing the extraction of a male newborn

(weight = 2400g) with Apgar from 6/10 to the 1st minute. The exploration of the abdominal cavity and the hepatic stage showed a subcapsular hematoma of the liver taking all the right flank broken at the level of its anterior aspect of the segment VI of the liver with active bleeding (figure 2) from where place of a packing by 3 fields, having covered the liver and covering the rupture. The patient was then admitted to intensive care, with platelet transfusion, 5 fresh frozen plasmas and 2 red blood cells.

The evolution was marked by the hemodynamic stabilization under alpha-methyl dopa associated with nicardipine with improvement of the biology.

On the third postoperative day, the depacking was performed in the absence of recurrence of hemoperitoneum on the control examination and stabilization of the hemodynamic state, coagulation.

The clinical, biological and radiological evolution was favorable, allowing thereafter the transfer of the patient into the service of the diaper suites.



**Figure 1:** subcapsular hematoma of the liver opposite the right liver measuring 30 mm extended over its entire height.



**Figure 2:** Subcapsular hematoma of the liver at the anterior aspect of the liver.

## DISCUSSION

The sub-capsular hematoma of the liver complicates 1/45000 to 1/225,000 pregnancies.<sup>[1,6]</sup> Most often it is a complication of pre-eclampsia, complicated or not eclampsia or a HELLP syndrome. It occurs preferentially in the third trimester of pregnancy and in postpartum (15 to 30%) of cases.<sup>[2,7]</sup> Maternal-fetal mortality (50 and 80% respectively).<sup>[8,9]</sup> Pre-eclampsia is a multi-systemic disease of the third trimester of placental origin with multi-visceral involvement. Hepatic lesions in preeclampsia occur in 2 to 5% of pregnancies with gestational hypertension.<sup>[10]</sup> These lesions are secondary to intravascular fibrin deposits located mainly in the periportal sinusoids. They initially consist of foci of hepatocellular necrosis, then infarction and intrahepatic haemorrhage.

These lesions can progress to the formation of an intrahepatic hematoma, most often under the Glisson capsule, and in the right lobe. The rupture of this hematoma is the main complication.<sup>[10]</sup> Hepatic rupture usually occurs in the right lobe of the liver. In a review of the literature, Henny *et al.*<sup>[11]</sup> thus found right lobe involvement in 75% of cases, lobe involvement in 14% and left lobe involvement in 11% of cases.

Cases of spontaneous liver rupture in a normal liver during an uncomplicated pregnancy are extremely rare.<sup>[3]</sup>

The most consistent clinical sign OF The sub-capsular hematoma (90% of cases) is persistent pain in the epigastrium and / or right hypochondrium typically "in the bar", more or less associated with scapular irradiation.<sup>[12]</sup> This pain is due to distention of the hepatic parenchyma and Glisson's capsule. At the Glisson capsule rupture stage, signs of haemorrhagic shock are associated with an acute surgical abdomen.<sup>[12]</sup>

The biology is not specific for HSCF, but a HELLP syndrome often present, abnormalities of coagulation, up to a disseminated intravascular coagulation table (CIVD).<sup>[6]</sup>

Imaging, mainly ultrasound and computed tomography (CT), are the most common ways to establish the diagnosis. In the emergency setting, ultrasound is readily available and can be used to directly identify the hematoma that most often begins in the right liver in the form of a biconvex capsular lens.<sup>[6]</sup> CT and MRI are more relevant investigations for liver exploration but can only be used in the absence of signs of maternal or fetal severity.

The therapeutic modalities of HSCF remain debated, although they are more and more codified. All management must be rapid and requires multidisciplinary collaboration. It includes three slopes, resuscitation associated with the treatment of hypertension, fetal extraction and treatment of HSCF guided by imaging or abdominal exploration.

Management in the absence of rupture of the Glisson capsule is based on close monitoring, treatment of bleeding disorders and fetal extraction. In case of rupture, the use of a median laparotomy allows both fetal extraction, exploration of the hepatic stage with drainage of the haemoperitoneum and the carrying out of a packing of the liver.<sup>[13]</sup> This therapeutic attitude has been adopted in our patient.

Introduction of a celioscope during cesarean section by transverse incision has recently been described,<sup>[2]</sup> it made it possible to easily explore the liver, to ensure the absence of active bleeding and thus avoid a median incision more decaying.

Other surgical techniques have been described and could be applied on a case-by-case basis. Have been cited:

The suture of the hemorrhagic zones and argon laser coagulation,<sup>[14]</sup> ligation of a branch of the hepatic artery, embolization of a branch of the hepatic artery can be proposed, lobectomy and liver transplantation. These techniques can be proposed as last intention.

After the acute phase, close clinical, biological and radiological monitoring is required.

## CONCLUSION

The sub-capsular hematoma occurring in pre-eclampsia is a rare but serious complication of pregnancy. Management must be rapid and multidisciplinary because hepatic rupture is burdened with high maternal and fetal mortality

## REFERENCES

1. Taheri H, et al. L'hématome sous capsulaire du foie rompu. À propos de 3 cas. *Anesth Reanim*, 2015.
2. P. Berveiller, L. Vandenbroucke, T. Popowski, R. Afriat E. Sauvanet, Y. Giovangrandi. Hématome sous-capsulaire du foie: cas clinique et mise au point actualisée sur la prise en charge. *Journal de Gynécologie Obstétrique et Biologie de la Reproduction*, 2012; 41: 378—382.
3. B. Chung Fat, J.J. Terzibachian, A. Grisey, J.P. Houzé, J.P. Faller, F. Leung, T. de Lapparent, R. Maillot, D. Riethmuller. Rupture hépatique spontanée au cours d'une grossesse gémellaire non compliquée. *Gynécologie Obstétrique & Fertilité*, 2011; 39: 7–e10.
4. Vieillefosse S, et al. Facteurs prédictifs et pronostiques de la prééclampsie: intérêt du dosage du PIGF et du sFLT-1. *J Gynecol Obstet Biol Reprod (Paris)*, 2016.
5. Aberombie J. Haemorrhage of the liver. *London Med Gaz*, 1884; 34: 792–4.
6. Wicke C, Pereira PL, Neeser E, Flesch I, Rodegerdts EA, Becker HD. Subcapsular liver hematoma in HELLP syndrome: évaluation of diagnostic and therapeutic options-aunicen-ter study. *Am J Obstet Gynecol*, 2004; 190: 106–12.
7. Nunes JO, Turner MA, Fulcher AS. Abdominal imaging features of HELLP syndrome: a 10-year retrospective review. *AJR Am J Roentgenol*, 2005; 185: 1205—10.
8. Mihiu D, Costin N, Mihiu CM, Seicean A, Ciortea R. HELLP syndrome – a multisystemic disorder. *J Gastrointest Liver Dis.*, 2007; 16: 419–24.
9. Norwitz ER, Hsu CD, Repke JT. Acute complications of preeclampsia. *Clin Obstet Gynecol*, 2002; 45: 30829.
10. Rolfes DB, Ishak KG. Liver disease in toxemia of pregnancy. *Am J Gastroenterol*, 1986; 81: 1138–44.
11. Henny CP, Linn TE, Brummelkamp WH, Buller HR, Cate JW. A review of the importance of acute multidisciplinary treatment following spontaneous rupture of the liver capsule during pregnancy. *Surg Gynecol Obstet*, 1982; 156: 593–398.
12. Pavlis T, Aloizos S, Aravosita P, Mystakelli C, Petrochilou D, Dimopoulos N, et al. Diagnosis and surgical management of spontaneous hepatic rupture associated with HELLP syndrome. *J Surg Educ*, 2009; 66: 163—7.
13. Tyagi V, Shamas AG, Cameron AD. Spontaneous subcapsular hematoma of liver in pregnancy of unknown etiology—conservative management: a case report. *J Matern Fetal Neonatal Med*, 2010; 23: 107–10.
14. Shrivastova VK, Imagawa D, Wing DA. Argon beam coagulator for the treatment of hepatic rupture with haemolysis, elevated liver enzymes, low platelet (HELLP) syndrome. *Obstet Gynecol*, 2006; 107: 525–6.