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Liver Rupture in Eclampsia: A Case Report

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ABSTRACT

Spontaneous rupture of the liver associated with pregnancy is a rare and grave complication. The maternal mortality is 59 per cent, the fetal mortality 62 per cent. Following is a case of fatal liver rupture in a multiparous patient with Eclampsia.

KEYWORDS :

Introduction:

Hepatic rupture during pregnancy is a rare but dramatic occurrence with a high risk of maternal and fetal mortality Generally it occurs in the 3rd trimester or in the puerperium (20%) It is associated with severe preeclampsia or HELLP (Hemolysis Elevated Liver Enzymes Low Platelet) syndrome affecting 1/4500 pregnancies (1) Spontaneous hepatic rupture is preceded by sub capsular hematoma formation that leads to right upper quadrant pain due to distension of the hepatic capsule(1) After the rupture, the development of hemoperitoneum justifies the peritoneal signs and hypovolemic shock that may occur If blood loss is extensive hypertension can be borderline or absent at presentation becoming visible only after volemic correction Blood analysis may show anemia, thrombocytopenia, hypofibrinogenemia , elevation of liver enzymes and prolonged coagulation tests (3)

Case: A 25 year old G2P1L1 with a previous vaginal delivery (who was a case of hypertensive disorder of pregnancy for the last 2 weeks but an irregular follow up) reported to the peripheral health center with 3 episodes of convulsion On presentation her BP was 180/100 mm hg was given a loading dose of Magnesium sulfate (14 grams) and planned for referral to higher center She went into active labor and FHS could not be recorded .She delivered a preterm, fresh, small for gestational age baby No retro placental clots or post partum hemorrhage occurred. Post delivery patient insisted on staying in the same hospital As per records, magnesium sulfate was not continued after the loading dose. She remained normotensive without any anti hypertensive Oliguria was noted 6 hours after delivery and patient developed hypotension irrespective of fluid challenge She was referred to our center in a state of almost Anuria and patient being supported by noradrenaline-dopamine drugs On receiving the patient at our center (4 hours of journey) , the patient was in a poor hemodynamic status On examination, the patient was very pale, peripheral pulse and BP were not recordable , Heart rate was 150-160/minute , SpO2 was 60% on oxygen , abdomen was distended and tensed On per vaginal examination: uterus was contracted, no active bleeding was present Meanwhile, patient had a cardiac attack and we could not revive the patient irrespective of all resuscitative measures Laboratory investigations at our center :Hb 6.4 gram% ; Platelet 91000 lakhs / cu mm; SGOT 818.6 IU /L ;SGPT 658.6IU/L; Se. Creatine2.6 mg/dl We could not do any imaging modality of investigations To conclude , the patient was a case of Hypertensive Disorder of Pregnancy with Eclampsia and HELLP and post partum developed oliguria and renal failure with no evident site of hemorrhage identified Post mortem report suggests of

Liver:

- rupture of left lobe of the liver with a bid sub capsular clot measuring 15 x 6 cms
- Hemorrhagic patches seen all over liver surface
- Uterus :
- Enlarged ,contracted with cut section s/o multiple tiny clots
- Brain:
- congested and edematous
- Bilateral lungs: congested

Discussion:

Rupture of sub capsular liver hematoma during pregnancy are , with an incidence ranging from 1:15000 to 1:45000 live births. About 0.9% patients with HELLP syndrome develop sub capsular hematoma (8)

In pregnancies complicated with hypertension liver hematoma is probably due to fibrin clots deposition (arising from endothelial dysfunction wit activation of the intravascular coagulation) in the hepatic arterioles and sinusoids and also periportal hemorrhagic necrosis , inciting capsule distension (5 , 9)

The presence of microscopic hepatopathy in these cases is probably and underestimated, since random sampling of the hepatic surface in pre eclamptic women has shown variable degrees of hemorrhage (ranging from hemorrhagic spots to sub capsular hematoma) (3)

The free hemoperitoneum resulting from capsule rupture causes peritoneal signs (abdominal guarding) and can lead to hypovolemic shock (4)

Often, hypertension is absent in borderline , becoming evident only after volume replacement (4)

Blood analysis may show anemia, thrombocytopenia , hypofibrinogenemia , elevation of liver enzymes and prolonged coagulation tests (3)

The differential diagnosis include fatty liver of pregnancy ,placental abruption with coagulopathy , thrombotic thrombocytopenia , purpura and hemolytic – uremic syndrome (4,7) and differentiation should be based on clinical ,analytical and imagiological changes

Once confronted with a suspicious case imaging by either ultrasound or MRI is indicated(4)

Treatment should begin with volume replacement and coagulopathy correction if needed. Immediate surgical exploration with simultaneous delivery should be performed. Local liver hemostasis can be achieved by hepatic suture, cauterization, Argon LASER, temporary tamponade , hepatic artery ligation or even segmental hepatectomy . (4-8)

More recently there have been reports of successful management of these situations with selective arterial embolization(3)

Treatment should be as conservative as possible (a hemodynamically stable patient with an unruptured hematoma at imaging may be followed by imaging without intervention), leaving more aggressive interventions to particularly severe cases.(3)

The management of severe cases should be multidisciplinary, thus leading to a mortality rate reduction .Nevertheless ,maternal mortality can reach up to 60% and is mostly due to massive hemorrhage and coagulopathy. (4,7,8)

In surviving women further morbidity can be due to respiratory distress syndrome , pulmonary edema , acute hepatic failure , acute renal failure , disseminate intravascular coagulopathy and multiple transfusions.(8)

Although rare, this diagnosis should be considered every time a pregnant woman presents with upper abdominal pain and signs of hemorrhagic shock, not only in those pregnancies with hypertension but also in otherwise apparently uncomplicated pregnancies.

Other than Abruption, DIC , PPH even liver hemorrhage /hematoma should also be kept in mind as a cause of hypovolemia especially in the context of severe hypetertensive disorders of pregnancy

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