ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

LIVER CIRRHOSIS WITH PORTAL HYPERTENSION IN PREGNANCY- A CASE REPORT

KEY WORDS: portal hypertension, liver cirrhosis, variceal bleeding

Dr Sowjanya S B* Senior resident, department of OBGY, GMCH, Miraj, Maharashtra. *Corresponding Author

Dr Rokade Jyoti Vikas Associate professor, department of OBGY, GMCH Miraj, Maharashtra.

Dr Purushottham Hoogar Junior resident, department of OBGY, GMCH, Miraj, Maharashtra.

ABSTRACT

Pregnancy is uncommon in women with liver cirrhosis, as they tend to be past childbearing age or infertile because of cirrhosis. Cirrhosis leads to anovulation and amenorrhea due to many factors like disturbed oestrogen and endocrine metabolism. Even when pregnancy is successful in a cirrhotic woman there is poor maternal and foetal outcome. When a pregnant woman presents with liver cirrhosis, it is a great clinical challenge for an obstetrician as the course of the disease worsens with pregnancy because of hemodynamic changes during pregnancy. Pregnancy increases the risk of hepatic failure and bleeding from the varices but pregnancy is not contraindicated in such cases and recent improvements in treatment of cirrhosis have resulted in a greater number of pregnancies in these women So, we as obstetrician should become familiar with the management. One such case was encountered at our tertiary care centre which is described below.

INTRODUCTION

Pregnancy with liver cirrhosis is uncommon due to disturbances in endocrine metabolism, especially estrogen[1]. Liver cirrhosis is a chronic hepatocyte injury with extensive fibrosis and nodular regeneration[2]. Malnutrition and altered hepatic metabolism of sex steroids may play a role but corroborative evidence is lacking. Fertility is normal or near normal in well-compensated cirrhosis, and infertility usually reflects the degree of hepatic dysfunction[3]. The hemodynamic changes, in adaptation to the pregnancy and foetal needs, worsen the portal hypertension resulting in potentially life-threatening variceal bleed and others like severe anaemia, hepatic decompensation, leading to progressive liver and renal failure, usually after variceal bleeding, hepatic encephalopathy, splenic artery aneurysm rupture, ascites, spontaneous bacterial peritonitis, and postpartum haemorrhage[4]. Pregnancy is a potential hazard for occurrence of recurrent variceal bleed due to its hyperdynamic state causing increase in flow to the collaterals[5]. Indeed, up to 25% of patients with varices have a bleeding episode during pregnancy. The greatest risk is seen in the second trimester (when portal pressures peak), and during delivery, because of the repeated use of the Valsalva manoeuvre during expulsion. However, there are no clear recommendation regarding mode of delivery, even if caesarean section is recommended in patients with large oesophageal or gastric varices; risk of vaginal delivery in patients with small varices is unknown[6].

With recent improvements in the treatment options of liver cirrhosis more women are presenting to obstetrician with pregnancy with liver cirrhosis and portal hypertension. We report a case of pregnancy with liver cirrhosis with portal hypertension and also with gestational hypertension who was managed at our tertiary care centre.

CASE REPORT

28 years old G2P1L1 with 9 months ANC came with complaints of pain in abdomen. The pain in abdomen was since 4 hours, in the lower abdomen radiating to back, increasing with time. She was married for 4 years, first pregnancy was uneventful and delivered by LSCS 3 years ago for indication- meconium-stained liquor, it was uneventful. In present pregnancy, she was diagnosed with gestational thrombocytopenia but was not on any treatment. She was booked with 7 visits, she had 5 ultrasound examinations. She was k/c/o liver cirrhosis and portal hypertension which was diagnosed during pregnancy and she was on liver protective agents and there was no history of variceal bleeding.

On examination, pulse- 90/min, BP- 130/70 mmhg, systemic examination detected no abnormality. Abdomen uniformly distended longitudinally, height of uterus 36 weeks, longitudinal lie, FHS- 160bpm, regular, previous LSCS scar present, no scar tenderness, no contractions felt. Per vaginum examination- Os posteriorly placed, closed, uneffaced. Her vision was normal, deep tendon reflexes were normal, there were no warning signs, no signs of liver failure or encephalopathy. Provisional diagnosis was made as G2P1L1 at 38 weeks with previous 1 caesarean section with known case of gestational thrombocytopenia, cirrhosis of liver with portal hypertension not in labour. Investigations revealed haemoglobin-10.5g/dl, platelet-64,000, TLC-8000/cmm, liver, renal function tests were within normal limits. USG revealed liver cirrhosis, splenomegaly, portal hypertension, ascites. Gastroenterologist and physician opinion taken.

Patient was taken for elective caesarean section for indication- previous caesarean section at term with unfavourable cervix. Patient was transfused with 4 units of platelets as she was a case of gestational thrombocytopenia with preoperative platelets were 64,000/cmm, FFP and blood were crossmatched and reserved and all the measures to combat PPH were kept ready. Under general anaesthesia, abdomen is opened in layers and baby was delivered, inj oxytocin 10IU given intramuscularly and placenta delivered after signs of separation. Patient went into atonic PPH. Medical management and uterine massage continued. Uterus still remained flabby and there was torrential bleeding from the uterus and also from the varices in the anterior abdominal wall. The varices were clamped and ligated and meanwhile decision of obstetric hysterectomy was taken as patient was profusely bleeding due to atonic PPH not responding to medical line and systolic blood pressure falling below 70mmhg and also massive transfusion protocol was activated, resuscitated with blood and fluids, started on inotropes. She was shifted to ICU for further management and she received 4 units of blood, 4 units of FFP and 8 units of platelets in total. She remained vitally stable and shifted back to ward on postoperative day-3 and discharged on postoperative day-6.

DISCUSSION

In our case scenario, she was a known case of liver cirrhosis,

portal hypertension, gestational thrombocytopenia and also as she had history of previous caesarean delivery and full term, not willing for VBAC, she needed caesarean section. There were multiple risk factors which would lead to poor maternal and fetal outcome.

Numerous hemodynamic and physiological changes occur during pregnancy as an adaptation to the needs of the growing fetus. These changes start as early as six weeks and peak around 32 weeks. One of the earliest changes is an increase in plasma output by 40-50%. Maternal cardiac output increases by 30-50% due to increase in stroke volume and the heart rate. There is decline in systemic vascular resistance as a result of progesterone effect and development of placental vascular bed. As a result of all of these changes, there is a profound alteration in systemic hemodynamic resulting in a hyperdynamic state with increased pulse pressure. These changes can worsen the portal hypertension in pregnant patients with portal hypertension and markedly increase the risks of variceal haemorrhage[7]. Maternal complications occur in 30% to 50% of patients with pre-existing portal hypertension. These include variceal hemorrhage, hepatic failure, postpartum hemorrhage, rupture of splenic artery aneurysm, rupture of splenorenal shunts, spontaneous bacterial peritonitis and maternal death. Hypersplenism may cause anemia and its related complications. It also poses an added risk of bleeding due to thrombocytopenia during this type of pregnancy in such patients[8]. Management of pregnancy in cirrhosis entails careful assessment of liver function, esophageal varices and screening of other complications followed by an individualistic approach for each case. The importance of maintaining hydration and avoiding hypotension cannot be overemphasized.

Hypotension can precipitate hepatorenal syndrome and is a risk factor of hepatic decompensation and encephalopathy. The risk of hypoglycemia is real and needs to be addressed on a regular basis with generous supplementation of simple sugars and fruit juices. Renal function should be monitored on a regular basis to pick up any dysfunction early. Regarding management of labor, choice of mode of delivery should be made as per obstetric indications. Like in our case, previous caesarean section at term not in labor and not willing for trial of labor was indication. Under lying coagulopathy in cirrhosis often needs correction to prevent post-partum hemorrhage which is common and has been reported in 7% to 26% of the cases. Risk further increases with a caesarean section and blood products should be readily available during labor of such a patient. Regional anesthesia should be preferred over general anesthesia if required during operative delivery. And sedatives should be used minimally as they may precipitate hepatic encephalopathy[9]. Management of portal hypertension in pregnant women is similar to that in non-pregnant patients. Beta blockers are given to reduce portal venous pressures. Surgical management by banding and sclerotherapy have been successfully employed during pregnancy. It is possible to do shunt surgery during the second trimester[10].

Post-partum hemorrhage is one of the obstetrical complications which should be anticipated in known cases of liver cirrhosis and portal hypertension especially in this case as she also had gestational thrombocytopenia. Steps should be taken to prevent PPH by giving oxytocic, injection tranexamic acid during caesarean section. Though we had taken all these steps, there was still PPH because of atonic uterus. Compression test was done and found not useful in that particular case and also there was torrential bleeding which compelled for obstetric hysterectomy. Timely decision and obstetric management, tackling complications like PPH even in cases of cirrhosis with coagulopathy and thrombocytopenia hence the title, surgeon is the vital clotting factor. Obstetrics is a dynamic branch and we should be always be on toes to manage obstetric emergency.

CONCLUSION

Unlike before, cirrhosis with portal hypertension is not a contra indication for pregnancy but associated with poor maternal and foetal outcome. Recent improvements in treatment of cirrhosis have resulted in a greater number of pregnancies in these women. The management of pregnancy with portal hypertension should only be done at tertiary care centres by a multidisciplinary team with backup facilities for intensive care and blood transfusion. Knowledge regarding antepartum and intrapartum management is essential.

REFERENCES

1. Bell H, Raknerud N, Falch JA, Haug E. Inappropriately low levels of gonadotrophins in amenorrhoeic women with alcoholic and non-alcoholic cirrhosis. Eur J Endocrinol. 1995;132(4):444–9. https://doi.org/10.1530/eje.0.1320444.
2. Schuppan D, Afdhal NH. Liver cirrhosis. Lancet. 2008;371(9615):838–51. https://doi.org/10.1016/S0140-6736(08)60383-9.
3. Metgud MC, Goudar SS, Patil KP. Cirrhosis with Portal Hypertension in Pregnancy. J South Asian Feder Obst Gynae 2018;10(2):134-137
4. Aggarwal N, Negi N, Aggarwal A, Bodh V, Dhiman RK. Pregnancy with portal hypertension. J Clin Exp Hepatol 2014.Jun;4(2):163-171.
5. Neelam Aggarwal et al, Pregnancy with Portal Hypertension, Article in Journal of Clinical and Experimental Hepatology June 2014 DOI: 10.1016/j.jceh.2014.05.014
6. Filomena Moriscoa et al, AISF position paper on liver disease and pregnancy, The Italian Association for the Study of the Liver (AISF), http://dx.doi.org/10.1016/j.dld.2015.11.004 1590-8658/© 2015 Editrice Gastroenterological Italiana S.r.l. Published by Elsevier Ltd.
7. Dhingra M et al, Pregnancy with portal hypertension: a case report, Int J Reprod Contracept Obstet Gynecol. 2018 Sep;7(9):3896-3898.
8. Puneet Khanna et al, Emergency Cesarean Delivery in Primigravida with Portal Hypertension, Esophageal Varices and Preeclampsia; AANA Journal, October 2012, Vol. 80, No. 5.
9. Yadav P, Tyagi S. Peripartum decompensation Uncovering underlying asymptomatic Cirrhosis and Portal Hypertension: An Unusual Case Report. Clin Case Rep Int. 2018; 2: 1083.
10. Sandhu GS et al, Pregnancy with portal hypertension, J Obstet Gynecol India Vol. 57, No. 3 : May/June 2007 Pg 261-262