SURGICAL MANAGEMENT OF POSTPARTUM HEPATOCELLULAR CARCINOMA OF LIVER- A RARE CASE REPORT.
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Abstract: Background Hepatocellular carcinoma is highly prevalent in group of population with Hepatitis B virus infection and aflatoxin ingestion. Hepatocellular carcinoma in pregnancy and postpartum period is rare. Only few cases reported from literature. Case Report This is a case report of a young lady, age of 21 years, Primi presented with mass abdomen on the 20th postpartum day. She had dull aching pain of 20 days duration in Right hypochondrium. She had loss of weight appetite for 15 days. She had no fever no jaundice. She never consumed oral contraceptive Pills. Patient had no malena and no hematemesis. CECT abdomen showed enlarged liver with a large lobulated heterogenous necrotic mass occupying segments 5, 6, 7 and 8 with a large inferior exophytic component. S.AFP was elevated (1266 IU/ml). Upper GI endoscope showed antral erosions and extraneous impression at D1. She had no Cirrhosis and Portal hypertension. Her Portal Doppler was normal. Her Viral markers were negative for Hepatitis B, C. She underwent Right Hepatectomy in our Institution. Patient underwent R0 resection. Patient didn’t develop any recurrence on follow up for the past 2 years. Conclusion HCC can occur in young age during the postpartum period, without prior liver disease like cirrhosis and viral hepatitis. But prognosis is good if diagnosed and resected early. The role pregnancy, Breast feeding and sex hormones in the progression of HCC must be evaluated.

Keyword: Hepatocellular carcinoma, Hepatectomy, pregnancy, postpartum period, Breastfeeding.

Case Report: A 22 year old lady who delivered a Male baby about 2.9 kg, 20 days ago, presented with mass abdomen in the right side of the abdomen with dull aching pain of 20 days duration. She had loss of weight and appetite for 15 days. She had no fever no jaundice. She never consumed oral contraceptive Pills. Patient had no malena and no hematemesis. Patient had no cirrhosis and no hematemesis. Patient had no co morbidity like systemic hypertension and Diabetes mellitus etc.

Patient’s vitals were stable. On examination, abdomen was soft. A mass palpable in the right hypochondrium, about 8*6*7 cm in size. It moves with respiration. Mass was well defined but not tender. It was firm in consistency with surface irregularity. Portal Doppler was normal. Patient’s vitals were stable. On examination, abdomen was soft. A mass palpable in the right hypochondrium, about 8*6*7 cm in size. It moves with respiration. Mass was well defined but not tender. It was firm in consistency with surface irregularity. Liver dullness continued with the mass. There was no free fluid in the abdomen. There was no supraclavicular lymphadenopathy. Rectal examination revealed no deposits.

INVESTIGATIONS: Patients’s Hemogram was normal. Hemoglobin was 10.3 gms%. Total WBC count was 6300 cells /mm3. Her Blood Group was B Positive. Her renal function and liver functions were normal. S.Albumin was 3.7g/dl. Prothrombin time (PT): 13.6 secs, INR: 1.02. Viral markers like HBs Ag, Anti-HCV, HIV 1&2 were Negative. S.AFP was 1266 IU/ml. X-Ray Chest & ECG were within normal limits. Upper GI endoscope showed antral erosions and extraneous impression at D1 present. USG Abdomen showed multiple echogenic masses seen in Right lobe of liver with hypoechoic area in the pedunculated lesion. No ascites present. Portal Doppler showed Hepatomegaly with minimal ascites. Hypoechoic mass lesion in right lobe of liver segment 5, 6 abutting right kidney with multiple satellite nodules in the right lobe of the liver. Normal portal venous Doppler study.
Figure 1. CT Scan Abdomen sagittal section shows SOL Right lobe of liver

Figure 2. Same patient CT Scan horizontal section shows multiple satellite lesions in right lobe of liver.

CECT Abdomen showed enlarged liver with a large lobulated heterogenous necrotic mass occupying segments 5 and 6 and a large inferior exophytic component with inhomogeneous contrast enhancement (+). Few small necrotic masses of varying sizes are seen in segment 7 and segment 8 suggestive of Primary hepatocellular carcinoma. No ascites No extra hepatic liver metastasis. She was taken up for surgery

Procedure: Right Hepatectomy Under General anesthesia & Supine Position, using aseptic precautions, Reverse L incision (Makkuchi) Incision was made in the abdomen.

Operative Findings: There was an 8x6x7 cm size lesion in segment 5 and 6 and multiple satellite lesions seen in 8 and 7. No ascites, no peritoneal, no pelvic deposits and no extra hepatic metastasis were noted. Hilum of liver was normal

Operative procedure: Lowering of Hilar plate of liver was done & Cholecystectomy was done. Right hepatic artery was identified and ligated and divided. There was a Line of demarcation noted on the surface of the liver. Next IVC ligament was divided from IVC. Pringle maneuver was applied. Liver parenchymal transaction was done in the line of demarcation using Kelly classis (crush clamp) technique. Intra hepatic portal pedicle ligation was done. Segment 5, 6, 7, 8 of liver were resected. Remnant segments 1, 2, 3, 4 were found to be normal in color and texture. Cut surface of liver inspected for hemostasis. Surgicel and gelfoam kept over the raw surface for hemostasis. Complete Hemostasis was secured. Omentum was kept in the empty space. A tube drain was kept in the right subphrenic space and abdomen closed. Total duration of surgery was 3 hours. Blood loss was about 1000 ml. Intra operatively 2 units of blood was transfused.

Figure 3. Intraoperative picture shows tumour in the right lobe of liver

Figure 4. Liver resection started with marking

Figure 5. Liver parenchymal transection by kelly classis (crush clamp) technique

Figure 6. During Liver parenchymal transection vascular structure identified.

Figure 7. Remnant Liver following Right hepatectomy

Figure 8. Surgicel application for hemostasis over the raw surface.

Figure 9. Right hepatectomy specimen

Post-Operative Course:
Patient was started on oral fluids on day 3. Patient developed fever on post op day 3. USG abdomen showed free fluid in the subhepatic space. Percutaneous catheter drainage was done. Patient recovered from fever. Patient was started on Spironolactone and finally the ascitic fluid completely resolved.

Discussion:
Hepatocellular carcinoma arises from background of cirrhotic liver and viral hepatitis B, C, etc. Hepatocellular carcinoma occurs at >40 years of age. But this patient developed HCC without background of cirrhosis and viral hepatitis. Her age was 21, she was in postpartum period. So it is a rare case presentation of HCC occurring in Post natal mother without chronic liver disease and without exposure of hepatitis B, C.

During evaluation, patient had normal liver function test and no features suggestive of portal hypertension and cirrhosis of liver. Her upper GI endoscopy was normal. There was no esophagogastric varices or isolated gastric varices, no evidence of portal hypertensive gastropathy, no ectopic varices. Her platelet count was normal. Patient’s coagulation profile was normal.
The portal Doppler study showed normal patency of main portal vein and right and left portal vein branches. CECT abdomen showed normal patency of hepatic artery, portal vein and bile duct. No evidence of vascular or bile duct invasion by the tumour noted. Tumour occupied the segment 5, 6, 7, 8 of liver and remnant liver segment 1, 2, 3, 4 appeared normal and FLR (future liver remnant) appeared adequate to perform right hepatectomy. There was no extrahepatic liver metastasis as per CECT abdomen. Her ECOG status was 0. She was asked to stop breast feeding to her child 2 days before surgery. Patient underwent right hepatectomy in our institution. During surgery, to reduce the blood loss, Pringle maneuver was used. During immediate post op period, she developed fluid collection in the right subhepatic space. It was drained by PCD (percutaneous catheter drainage). Aldactone 100 mg once daily (spironolactone) was started to reduce the fluid collection. Post op liver function was normal. Patient didn’t develop post hepatectomy liver failure. She was not given adjuvant chemotherapy since R0 resection was done as per histopathological report. Patient was followed up for 2 years after Right hepatectomy. With ultrasound abdomen and AFP, she did not develop recurrence. Metabolic hormones like cortisol, insulin, glucagon, adrenaline, prolactin are increased to meet increased metabolic demand during pregnancy and postpartum period. The metabolic demands on the liver by these hormones coupled with stress of lactation may result in rapid deterioration of diseased liver and hasten the progression of HCC during pregnancy and postpartum period. There are diagnostic difficulties during pregnancy because CT abdomen cannot be taken due to radiation exposure to fetus. Serum alpha feto protein may give false positive results during pregnancy and immediate postpartum period.

**Conclusion:**

HCC can occur in young age during the postpartum period, without prior liver disease like cirrhosis and viral hepatitis. But prognosis is good if diagnosed and resected early. The role of pregnancy, Breast feeding and sex hormones in the progression of HCC must be evaluated.

**Reference:**


