



## Spontaneous Rupture—An Unusual Presentation of Hepatocellular Carcinoma

### KEYWORDS

**ABSTRACT** Hepatocellular carcinoma is the most common malignancy among males and the 7th among female patients in the India. This is due to the endemicity of hepatitis B and hepatitis C. Spontaneous rupture of hepatocellular carcinoma is rare. We report one case of spontaneous rupture of hepatocellular carcinoma. Initial control of bleeding was achieved surgically by ligation of right hepatic artery. The incidence of ruptured hepatocellular carcinoma varies from 2 to 26 percent with mortality 1.2 percent.

The mechanism of spontaneous rupture is not clear but seems to be due to rapid expansion of the tumor with secondary of bleeding within its substance. Also area of acute inflammation with consequent bleeding, coagulopathy or tumor necrosis.

### Chief Complaints Were—

- Altered sensorium and not responding to commands
- And cold extremities since -----  
---2 hours
- Patient was complaining history of
- Right shoulder tip pain Right hypochondriac pain—since one day
- Patient worsened since morning was brought to hospital.
- **On examination of patient in casualty**
- There was no pulse and blood pressure palpable, extremities were cold and cyanosed
- Not responding to pain and Pupils were sluggishly reacting to light.
- Resuscitation was started immediately and shifted to ICU where patient was incubated and four crystalloids i.v, fluids were given,
- Pulse and BP get stabilized.
- Patient was examined and four quadrant tapping was done where frank blood was tapped
- Routine lab showing anemia with 5.3 Hb and deranged Inr of 2.12
- After arranging blood patient was immediately shifted to Operation Theater for surgical exploration.

### SURGICAL PROCEDURE AND FINDING----

Abdomen opened via midline incision extending from xiphi sternum to mid umbilical region and Right sub costal incision.

- There was frank blood with 3.5 lit blood with clots seen and removed.
- There was defect of 5 by 3 cm on poster superior surface with 3 by 2 cm size defect in center of this lesion which was continuously oozing blood.
- Biopsy from this area taken. there was no evidence of pus in cavity
- Rest abdominal organs were normal
- Multiple enlarged mesenteric lymph nodes were noted and biopsy of these were taken.
- The raw area was packed with surgical and gel foam to stop bleeding but still bleeding was continuous so the peri hepatic packing was done. After keeping two drain one in pelvis and one in sub hepatic region, abdomen was closed.

### Post Op Management---

- After patient was shifted to ICU was on ventilator support for two days on third day, there was pelvic drain was showing 400 cc blood mixed with bile output.
- Patient was shifted to operation theater for re exploration
- Abdomen was reopened through the same incision—on examination—there was haemo peritoneum was there,
- Active bleeding was seen at original lesion site on poster superior surface of liver, common hepatic artery and

common hepatic duct was explored, rt hepatic artery was ligated and chole cystectomy was done.

- Bleeding from lesion site stopped
- Lesion on poster superior surface packed with surgical and gelfoam and after keeping two drains abdomen was closed.
- Patient shifted to ICU and kept on ventilator.
- Patient become haemodynamically stable on 4 post op day and drains were removed.
- Ventilator support removed and patient put on t piece and ETT removed form 7 th day.
- On 8 th post op day, ultrasonography was done ---there was 6+6+5.8 cm hypo echoic lesion
- In right lobe of liver suggest of haemangioma with subcapsular lesion of 4 +2 cm s/o haematoma.
- Then contrast CT SCAN of abdomen and pelvis done
- Large well defined hypo dense in right lobe of liver 8.6+6.6+6.3 cm post contrast studies s/o
- Centripetal enhancement do not persist in delayed scan s/o hepatic adenoma.
- HPE --s/o liver cell adenoma with mesenteric lymphadenitis
- Usg repeated after 15 days no evidence of reduced size of liver.
- Patient was from remote rural areas so he did not do follow up in between and come one day in opd after 2 years and 7 months with
- Pain in epigastric with lump in epigastric region but patient was haemodynamically stable
- Usg done suggest of 10+9 cm size swelling in right lobe of liver and 7+6 cm in left lobe of liver
- Lab report s/o 7.9 gm with 1.1 INR, Alfa fetoprotein levels more than 2 lakhs.
- Contrast CT scan done ---
- Severe hepatomegaly; multiple well defined heterogeneous lesion seen in both lobe of liver
- In right lobe 12.2+12.8+15 Cms heterogeneous lesion with small no enhancing areas, left lobe is enlarged and both lobes shows architectural distortion.
- Biopsy taken from lesion s/o hepatocellular carcinoma.
- Patient was discharged and send for higher center for further management but patient was dead after 20 days after discharged.

### DISCUSSION--

#### Case Patient

The case patient had the classic symptoms of spontaneous hemoperitoneum resulting from hepatocellular carcinoma. His initial examination revealed hypo-tension, anemia, and abdominal distension. There was obvious source of blood loss. Abdominal ultrasonography revealed a liver mass and fluid in the peritoneum. Although initial diagnosis was hepatic adenoma, but the final diagnosis of HCC with a spon-

aneous hemo peritoneum was confirmed after 2yeras when patient was readmitted with epigastric mass.

### Epidemiology

HCC, a common neoplasm and a common cause of death from cancer, is 3 times more likely to occur in men than in women. There are approximately 1 million deaths resulting from HCC worldwide each year. It currently is unclear whether HCC is preventable by treating underlying hepatitis B or C with interferon.

Spontaneous rupture of HCC with acute hemoperitoneum is more common in Africa, Asia, and parts of Europe than in the United States. In an Italian study, the authors presented a retrospective review of 518 patients with HCC admitted to their institution between 1982 to 1993.

Approximately 2% of these patients had spontaneous rupture of their tumors. Other causes of spontaneous hemoperitoneum in hospitalized patients were ruptured ovarian cyst (44%), acute pancreatitis(9%), ruptured abdominal aortic aneurysm (6%), necrosis of the gall bladder (3%), ruptured liver (in cases of eclampsia) (3%), ruptured spleen (3%), necrosis of the uterine tube (3%), cancer of the uterus (3%),ectopic pregnancy (3%), and (more rarely) metastatic disease such as gestational trophoblastic disease. Spontaneous rupture instance are more in developing countries due differences in access to health care might play a role and large burden of hepatis B,C and cirrhosis. . In the largest US study intraperitoneal bleeding caused by hepatic rupture. Incidence is 1.6 percent.

Additionally, whereas the age-specific incidence of HCC in the United States has shifted to patients age 75 to 79 years, the average age reported for patients with spontaneous hemoperitoneum resulting from HCC in the Italian study was 62 years.

### Etiology

Intraperitoneal hemorrhage most likely occurs when tumor necrosis leads to rupture of blood vessels. The dissecting blood reaches the liver surface, causes interruption of the hepatic capsule, and results in intraperitoneal bleeding.

HCC is a very vascular tumor, receiving its blood supply from the hepatic artery. HCC can present as a single mass (massive HCC), as multiple nodules (nodular HCC), or as diffuse liver involvement (diffuse HCC). The microscopic growth pattern is trabecular, solid, tubular, sclerosing, or fibrolamellar. The fibrolamellar variant is associated with young patients without cirrhosis who have alpha-fetoprotein (AFP) levels within normal limits; this variants often surgically resectable and has a good prognosis.

### Clinical, Laboratory, And Radiographic Findings:-

The most common initial symptoms of intraperitoneal hemorrhage are abdominal pain, acute blood loss, and acute shock. Other signs and symptoms include right upper quadrant pain, hypotension, evidence of peritoneal irritation, and increasing abdominal girth. Abdominal tenderness, abdominal distension, hypotension, and tachycardia are common physical examination findings in patients with spontaneous hemoperitoneum.

HCC with spontaneous intraperitoneal hemorrhage should be suspected in any patient with a history of cirrhosis who has anemia and hypotension, even when there is an absence of malena and hematochezia and a nasogastric aspirate shows no blood. Paraneoplastic manifestations occurred in 12 of 121 patients with HCC in one study. Common paraneoplastic symptoms in these 12 patients included fever (7 patients), hypoglycemia (2 patients), hypercalcemia (2 patients), and erythrocytosis (1 patient).Hypercholesterolemia is another paraneoplastic symptom of HCC. Serum tumor markers are common in patients with HCC. Chlebowski and colleagues

found serum AFP levels to be elevated in 76% of patients with HCC. In 63% of these patients, serum AFP levels were greater than 1000 ng/mL, and in 75%, greater than 25 ng/mL. Hepatitis B surface antigen (HBs Ag) levels were elevated in 52% of the patients evaluated, and 63% of patients had elevated levels of carcinoembryonic antigen. HCC generally presents as an area of low attenuation on computed tomography (CT) scans, which are abnormal in 79% to 81% of patients with this neoplasm. In a previously cited study, spontaneous hemoperitoneum could be diagnosed in only 13% of patients on the basis of abdominal CT scans and abdominal ultrasound studies. Ruptured HCC has been detected using gray-scale and Doppler ultrasonography.

### Management:-

Surgical resection with complete removal of the tumor is the only option that can provide long-term survival in cases of HCC. For those undergoing surgical resection, long-term survival is improved if they are HBsAg negative rather than HBsAg positive. In many patients with such severe underlying liver disease, however, surgery is not an option. For them, the current mainstay of therapy is arterial embolization.

This procedure is safe and effective and, if the tumor is discrete, allows for surgical resection once the patient is stabilized. A retrospective study of 12 consecutive emergency hepatic artery embolization procedures performed because of spontaneous hemoperitoneum showed that hemostasis was achieved in all patients, 14 with a mean length of survival of 149 days. An earlier study reported that hepatic artery embolization in 17 patients with spontaneous rupture of their HCC led to hemostasis in all patients, 14 of whom survived the procedure; survival generally ranged from 16 to 386 days, but 1 patient was alive 15 months after undergoing the procedure.

Sunderland and colleagues reported another alternative method of treating patients with ruptured HCC. Nine patients with ruptured HCC underwent laparotomy with injection of alcohol. One patient died when the procedure failed, but 8 patients survived and left the hospital 8 to 21 days postoperatively. Another option for patients in this situation is supportive care without intervention. However, in a study of 63 patients with ruptured HCC, such conservative management resulted in an overall mortality rate of 84% versus a mortality rate of 53.8% in patients having surgical intervention.

### SUMMARY

Spontaneous hemoperitoneum is an uncommon manifestation of hepatocellular carcinoma.

However, the diagnosis should be considered in patients with a known history of cirrhosis or hepatocellular carcinoma whose symptoms and physical examination findings are consistent with acute blood loss despite no evidence of gastrointestinal bleeding.

Although abdominal CT scans can diagnose HCC in 79% to 81% of patients with the neoplasm, only 13% of spontaneous hemorrhages from HCC can be detected. An ultrasound-guided paracentesis can be performed to confirm hemoperitoneum. Intra-arterial selective embolization is an effective treatment strategy, while other options include surgical intervention with resection or alcohol injection, hepatic artery ligation.

In our case initial diagnosis was hepatic adenoma so patient was asked to follow up in opd but being poor an living in remote village with low literacy level, no follow up was done, when appear after 2 ½ years subsequently diagnosed as hcc.

This shows hepatic artery ligation also effective in treating spontaneous rupture with patient survival of approx 2 years and 8 months after ligation. but ligation of hepatic artery has

not reduce the spread or recurrence of hcc in other part of liver.

Proper early histopatological diagnosis of liver tumor in such cases is vital importance for constituting proper management after such episodes.

As the incidence of hepatitis b and c level and cirrhosis levels are rising in India due to high disease load

Poor accessibility to advance healthcare ,costly treatment ,and advance stage presentation of hcc is common, So instance of hcc which will present as spontaneous rupture will rise in future in india.