

SPONTANEOUSLY RUPTURED HEPATOCELLULAR CARCINOMA: A CASE REPORT

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ABSTRACT

Hepatocellular carcinoma is the 4th most common cancer in the World. Ruptured hepatocellular carcinoma (HCC) is indeed a serious and life-threatening complication. It is a relatively rare occurrence, happening in 3 to 15% of HCC cases, but it can lead to significant hemorrhage and a high mortality rate, with up to 75% of affected patients not surviving. Abdominal pain is the predominant symptom of ruptured hepatocellular carcinoma (HCC). To diagnose and confirm the condition, contrast-enhanced MDCT, an advanced imaging technique that provides detailed liver images, is done. This enables healthcare professionals to identify the rupture and evaluate its extent and severity. The available treatment choices for ruptured hepatocellular carcinoma consist of surgical resection, plaction or packing, hepatic artery ligation, and transcatheter arterial embolization (TAE). The selection of the appropriate treatment depends on various factors, such as the patient's overall health, the extent of tumor involvement, the availability of treatment resources, and the expertise of the medical team. At our institution, we had a new experience when we came across an elderly male patient with a ruptured hepatocellular carcinoma (HCC). It was the first instance of encountering such a case in our setup.

KEYWORDS: Hepatocellular carcinoma, tumor ruptured, contrast enhanced MDCT.

INTRODUCTION

Hepatocellular carcinoma (HCC) is a prevalent type of cancer, and its occurrence is on the rise globally, primarily due to the increasing prevalence of hepatitis B and C virus infections.

Additionally, alcohol addiction, non-alcoholic fatty liver disease, metabolic liver disease, and exposure to toxins are also significant risk factors.^[1,2] Patients of hepatocellular carcinoma present with the complain of abdominal pain and when ruptured, patients can develop life threatening hemorrhagic shock. This complication occurs in 3-15% of HCC cases, with a high mortality rate of approximately 75%.^[1]

The long-term survival outlook for patients with tumor rupture is unfavorable due to various factors, including elevated Child-Pugh Scores, advanced cancer staging, and the possibility of peritoneal seeding from the ruptured tumor. These factors contribute to a less favorable prognosis for these patients.^[2,3]

The appropriate management of this problem is still a matter of debate. For patients with advanced liver disease or multifocal HCC, transcatheter arterial catheter embolization (TAE) is considered the most suitable approach.^[4]

However, in patients with preserved liver function and resectable tumors, surgical resection may be a viable

option for treatment. The choice of management depends on the individual patient's condition and the characteristics of the tumor, and a multidisciplinary approach is often required to determine the most suitable course of action.^[4]

CASE REPORT

Our patient was 76 years old male who presented to OPD with history of pain in right hypochondrium and epigastric region, itching, jaundice along with significant weight loss of 15kg. He started to have those symptoms three months before coming to the hospital. On arrival his vitals were within normal range. On physical examination chest, cardiovascular system and central nervous system were unremarkable. Abdomen was soft and non-tender. Except Liver function tests, rest of the laboratory workup was normal. His serum alkaline phosphatase was 718, serum gamma GT 554, and aspartate transaminase 443. He underwent an ultrasound abdomen which showed mild ascites, hepatomegaly with a large heterogeneous solid mass in right lobe of liver demonstrating mild increased vascularity on Colour Doppler Index.

Few hypochoic target lesions were seen in both lobes of liver along with portal vein thrombosis. These findings were highly suggestive of neoplastic lesion with metastases. Patient underwent Contrast enhanced CT abdomen that showed a large heterogeneously enhancing mass with internal areas of necrosis replacing most of the

right lobe of liver. It is extending up to the hepatic capsule and breaching it at multiple sites. High density areas were also noted with in right lobe of liver likely hematomas. Right branch of hepatic vein appears thrombosed.

Moderate ascites and omental caking were also seen. Due to his old age the primary hospital team decided to treat him conservatively, but unfortunately patient could not survive for more than a day.

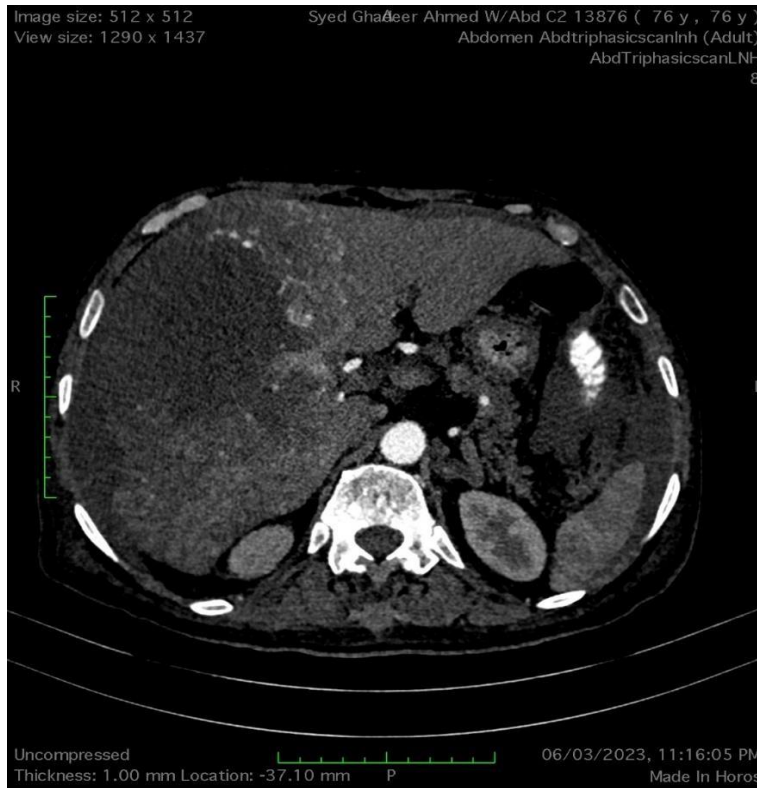


Figure 1.

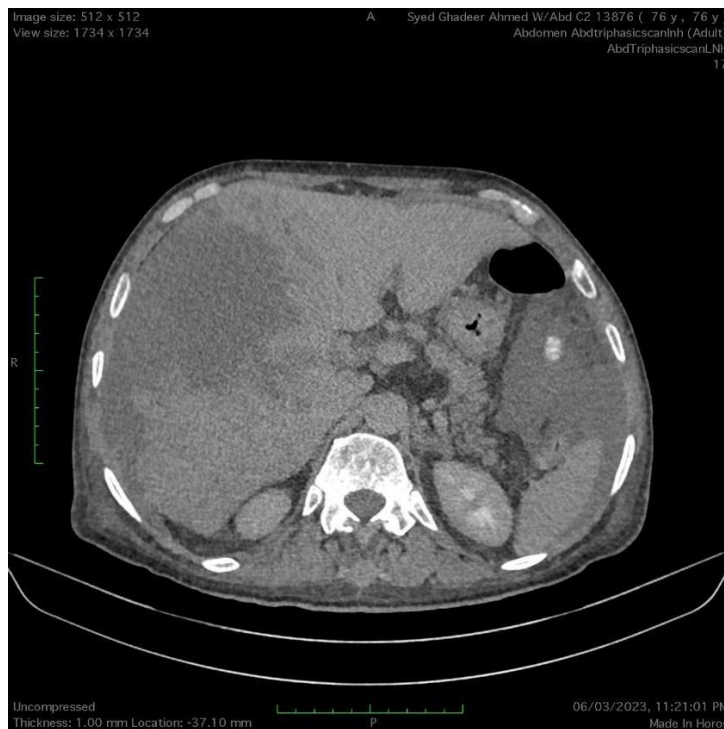


Figure 2.

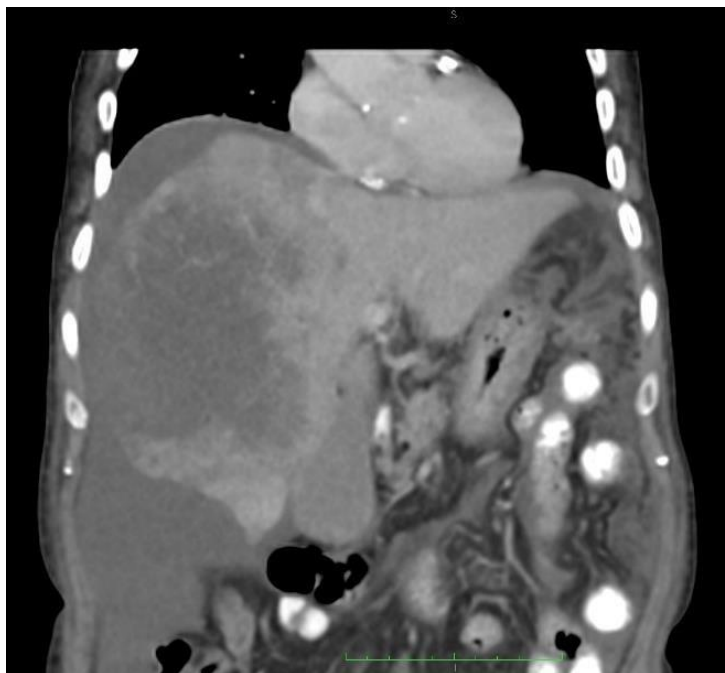


Figure 3.

DISCUSSION

Hepatocellular carcinoma (HCC) is the most prevalent form of liver cancer and ranks as the sixth most common cancer globally. It holds the unfortunate distinction of being the leading cause of cancer-related deaths worldwide. Spontaneously ruptured hepatocellular carcinoma (SRHCC) is a relatively rare but highly dangerous complication, mainly observed in advanced-stage tumors. Its occurrence is more common in Asia and Africa, where the incidence can reach up to 26%, in contrast to less than 3% in Western countries.^[5]

The first sign of ruptured hepatocellular carcinoma usually presents as a sudden onset of abdominal pain.^[1,3,5]

In the case of deep tumors, symptoms may be absent or limited to pain. Conversely, when the tumor is located in the peripheral region, it can lead to hemoperitoneum, often associated with peritonitis and hemodynamic instability.^[4]

In our case, patient had no known co-morbidities and presented abdominal pain associated with itching and jaundice.

CECT (Contrast-Enhanced Computed Tomography) is the primary diagnostic tool used to detect this life-threatening condition. The tumor that protrudes without surrounding normal liver tissue is prone to rupture due to compression or friction against neighboring structures such as the diaphragmatic muscle, abdominal wall, and gastrointestinal tracts. Consequently, the likelihood of rupture increases with the presence of extrahepatic invasion. Additionally, a tumor size greater than 5 cm was identified as one of the risk factors associated with

the prediction of HCC rupture.^[3] In our case, the tumor size exceeded 10cm.

The patient also underwent CECT abdomen, which revealed a heterogeneous enhancing mass that breached the hepatic capsule at multiple sites. The treatment options for hepatocellular carcinoma (HCC) include both palliative and curative approaches such as surgical resection, percutaneous therapy, and advanced methods like transarterial chemoembolization (TACE), transarterial embolization (TAE), and hepatic artery ligation.^[5,6,7]

For unresectable HCC, TACE is considered the best treatment option. Patients with ruptured HCC often present with advanced disease, and coexisting cirrhosis is common. The risk of peritoneal seeding is also higher at the time of rupture.^[6] Unfortunately, in our study, the patient's age was a limiting factor, and the patient could not survive the condition.

CONCLUSION

Spontaneous rupture and hemorrhage of HCC is considered a critical and life-threatening emergency in clinical practice. However, with timely surveillance, early detection, and accurate diagnosis, this fatal condition can be potentially prevented or managed more effectively. Regular monitoring of high-risk individuals and prompt medical attention are crucial in improving the outcomes for patients with HCC and reducing the risk of rupture-related complications.

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