INTRODUCTION

Primary hepatocellular carcinoma is one of the most common tumors in the world and is especially prevalent in Asia and sub-Sahara African regions. It is the second commonest cancer encountered in South East Asia.1

The clinical picture is very variable from completely asymptomatic with no physical signs other than those of cirrhosis to florid disease with liver failure.

Pain is frequent but rarely severe and is felt as a non specific, continuous dull ache in the epigastrium, right upper quadrant or back1 and sometimes radiating to the right shoulder.2 Severe pain may be due to perihepatitis or involvement of the diaphragm or rupture of the tumor.1

The findings on physical examination of the liver may vary from an entirely normal liver to one that is hard and rock-hard which strongly suggest tumor. The presence of distended, very tender liver suggest the possibility of hemorrhage from HCC or could be due to tension on the liver capsule due to a large, rapidly expanding tumor.3 Rupture of the tumor into the peritoneal cavity causes hemoperitoneum. This may be presented insidiously or as an acute abdomen with severe pain 3 and with a very poor prognosis.

CASE ILLUSTRATION

During a period of 3,5 years (August 2000 – till February 2004) 4 cases with spontaneous rupture of HCC were found (Table 1).

CASE 1

Mr. RB, 63 years of age was hospitalized on August 21, 2000, due to upper gastrointestinal tract bleeding.

Emergency endoscopic examination revealed esophageal varices bleeding. Ultrasound examination showed large right HCC with cirrhosis of the liver with minimally ascites formation. The size of tumor reached the edge of the liver.

The bleeding was controlled with rubber band ligation of the varices.

Two days afterwards (August 23, 2000) sudden severe pain occurred at the right upper quadrant of the abdomen. The abdomen was tense, ultrasound examination revealed pronounces ascites and puncture of the ascites showed concentrated bloody ascites. The hemoglobin content dropped from 10.6g% to 8.4g%.

The treatment was started by the administration of strong analgesic, parenteral vitamin K, fresh frozen plasma and trombocyte concentrate.

The bleeding subsided and the patient survived.

CASE 2.

Mrs. K, 54 years of age, admitted on September 15th, 2000 with right upper quadrant pain radiating to the back since 3 days.

The ultrasound examination of the abdomen revealed HCC of the right lobe based on liver cirrhosis with ascites. The size of the mass reached the edge of the liver.

On September 22, 2000 a sudden severe pain occurred at the right upper quadrant of the abdomen and the abdomen looked more distended. Puncture of the ascites showed bloody ascites, Hb content dropped from 9.1g% to 7.7 g%.

Packed red cell and strong analgesic were given, hemostatic abnormalities were corrected.

The patient died 3 days afterwards due to hemorrhagic shock.
Case 3
Mrs. E, 63 years of age, admitted on April 10, 2002 with very severe right upper quadrant pain and melena. The abdominal wall was tense. Abdominal ultrasound examination revealed a big right lobe HCC that reached the edge of the liver with ascites. Abdominal puncture showed bloody ascites. Hb content 7.0 g%. Treatment given were strong analgesic (meperidin 50 mg), fresh frozen plasma 5U and parenteral vitamin K.

The clinical condition improved, but the following day severe pain developed again. Hb content dropped, ureum and creatinin increased. The patient died due to hemorrhagic shock and hepatorenal syndrome.

Case 4
Mrs. PTN, 75 years of age, admitted on January 27, 2004, with chief complaint of severe abdominal pain for duration of 10 days.

Physical examination revealed distended, tensed abdominal wall. Ultrasound and CT Scan of the abdomen showed cirrhotic liver and mass at the right lobe which protruded from the edge of the liver and massive ascites. There was also a sign of internal hemorrhage into the tumor (Figure 1).

Puncture of the ascites showed grossly bloody ascites. The Hb content was 10.5 g% and was constant during hospitalization.

Treatment consisted of administration of strong analgesic (meperidin) and vitamin K.

She left the hospital on February 3, 2004 by her own request.

DISCUSSION
HCC is the fifth most common cancers, and the third most frequent causes of cancer death worldwide, with an estimation of 560,000 new cases per year. The frequency depend on the geographical area with the highest incidence in Eastern Asia. Other regions of highest incidence are sub-Saharan Africa, South-East Asia, and Southern Europe.

Hepatocellular carcinoma (HCC) may escape clinical recognition because they occur in patients with underlying cirrhosis, and the signs and symptoms may suggest progression of the underlying disease. The presence of HCC may be unsuspected until there is a deterioration in the conditions of a cirrhotic patient who is formerly stable.

The clinical manifestations of advanced HCC are protean and include decompensation of cirrhosis, tumor symptoms, acute abdominal catastrophe, cholestasis, fever of unclear etiology, paraneoplastic phenomena and the metastatis presentation (Table 2).

The most common presenting features of HCC are abdominal pain with detection of abdominal mass in the right upper quadrant. The pain is rarely severe and is felt as a non specific, continuous dull ache in the epigastrum, right upper quadrant or back and sometimes radiating to the right shoulder.

The pain may be caused by stretching of the capsule of the liver by the growing tumor, perihepatitis or involvement of the diaphragm. Presentation with severe right upper quadrant pain, shoulder pain or an acute abdomen should lead to the consideration of hemoperitoneum due to the rupture of HCC.

A dramatic increase in the pain usually indicates the hemorrhage into the tumor or hemoperitoneum.

Rupture of HCC may occur insidiously or as an acute abdominal with severe pain. The prognosis is poor.

Strong analgesic should be given to relieve the pain and prevent continuition of rupture in restless patient. Selective acute arterial embolization of the bleeding artery is the preferred treatment for this complication.

Conservative treatment consists of blood transfusion if the Hb content is very low, correction of hemostatic abnormality. We prefer not to tap the ascites to prevent decreasing pressure of the intraperitoneal cavity.

All 4 cases reported above were presented with acute severe abdominal pain, distended/tense abdominal wall, and the abdominal US/CT showed mass that reached the edge of the liver. Moreover in case no.4, the mass that protruded from the liver associated with internal bleeding and clearly showed disruption of the tissue that could be the site of rupture into the peritoneal cavity.

In 2 cases (1&2), the catastrophe occurred while the patient were in the hospital, in case no.3 & 4, the
patients came to the hospital with acute severe abdominal pain.

In 3 of the patients, there were lowering of the Hb content, in case 4, the pain occurred 10 days before admitted to the hospital and the Hb content was already stable.

In all 4 cases the bleeding subsided as noted from the constancy of the Hb content. In 2 cases bleeding occurred again and the patient died due to haemorrhagic shock.

Selective embolization could not be performed because lack of facilities.

In case that such modality are not available, what will the best treatment?

We suggest steps as follow in the management of HCC patient presents with acute severe abdominal pain:
- Total bed rest.
- Strong analgesic administration.
- Check the ascites as soon as possible whether it is clear, blood tinged or concentrated with blood.
- Maintain the circulation, with transfusion that should be given cautiously because it may aggravate the bleeding by increasing the intravascular pressure.
- Not to tap the ascites because it may increase the bleeding by lowering the pressure of the intraperitoneal cavity.
- US/CT: Is the mass reach the edge of the liver?
- Correct the hemostatic abnormality if present.
- Arterial embolization of the bleeding artery if available.

CONCLUSION

Spontaneous rupture of HCC should be considered in HCC patients with acute severe abdominal pain, bloody ascites and lowering of hemoglobin content; the abdominal wall is tense, full of ascites.

Treatment of choice is a selective arterial embolization. In case this modality is not available, the choice is conservative treatment, consist of administration of strong analgesic, correction of Hb content, not to give over transfusion, not to tap the tense ascites, correction the hemostatic abnormalities. The prognosis is poor, the mortality rate is high. 2 out of 4 cases (50%) reported died.

REFERENCES