CASE REPORT

Management of a giant ruptured hepatocellular adenoma. Report of a case

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Abstract
This report describes a rare case of a young woman with massive intra-abdominal bleeding due to a giant ruptured hepatocellular adenoma. The patient had never used oral contraceptive pills and she was urgently operated for haemorrhage control in another hospital where the left hepatic artery was also ligated. After haemodynamic stabilization in the ICU and because of a complicated postoperative course (signs of intraabdominal sepsis) she was transferred to our hospital and a left lobectomy was performed. We present the case and comment on the preferred treatment modalities of hepatocellular adenomas. *Hippokratia 2007; 11 (2): 86-88*

Key Words: *hepatocellular, adenoma, giant, rupture, surgical*

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Hepatic adenoma (HA) is a relatively uncommon benign tumour of the liver. Most of the patients are clinically asymptomatic but in some cases HAs may rupture and bleed, causing right upper abdominal quadrant pain. Rarely, rupture may lead to haemorrhagic shock acquiring emergency treatment. Although they are benign lesions, HAs can undergo malignant transformation to hepatocellular carcinoma (HCC)[1-3] and, for this reason, surgical resection is advocated in most patients with presumed HAs.

In this article we report a case of a young woman with a giant ruptured hepatic adenoma which presented with acute abdomen and hypovolemic shock and was managed by two stage treatment.

Case Report

A 22-year-old female was admitted to the emergency department of another hospital with acute abdomen and haemodynamic instability. She complained of sudden-onset right upper quadrant as well as right shoulder pain. During a physical examination she appeared anxious and had a low-grade fever, tachycardia, and diffuse abdominal pain with tender hepatomegaly. She had a known G6PD deficiency but no history of oral contraceptives taken. Her haemoglobin was 9.2 g/dl, and white blood cell count was 10100/mm3. The number of platelets and clotting functions were normal but her liver transaminase levels were elevated: AST 140 IU/l and ALT 229 IU/l. The serum amylase and lipase levels were normal as well as a-fetoprotein. HBsAg and HCVAb were negative.

Abdominal U/S and CT scan revealed a large mass occupying the segments II and III of the liver with evidence of haemoperitoneum (Figure 1). Immediately after the CT scan she was subjected to exploratory laparotomy for haemorrhage control. At the operation a large ruptured hepatic mass with intraparenchymal and intra-abdominal bleeding was revealed occupying the segments II and III. Haemostasis from the bleeding sur-

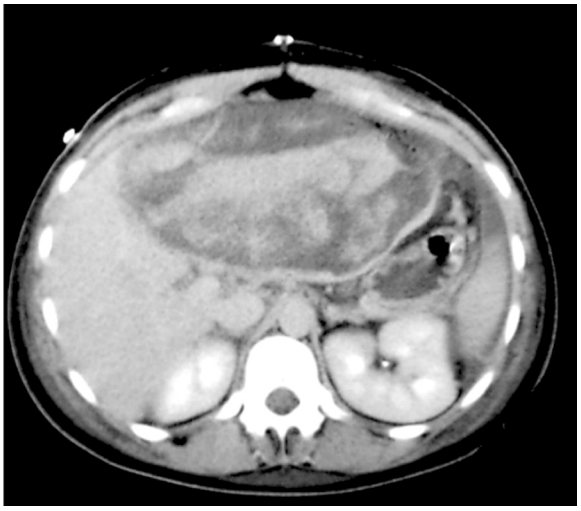

Figure 1: *Preoperative computed tomographic scan of the abdomen showing a heterogeneous hepatic mass occupying the segments II and III. A large subcapsular haematoma with evidence of haemoperitoneum is also seen*

face of the hepatic mass was achieved by some combination of several standard haemostatic procedures such as electrocoagulation, haemoclips, and deep figure-of-eight liver sutures. Ligation of the left hepatic artery was also performed and drains were placed. During the operation she was transfused with 8 units of packed red blood cells. The patient transferred to the ICU in a stable condition. A new CT scan was obtained on day 3, which confirmed once again the liver mass and showed a large amount of ascetic fluid in the abdomen and significant fluid collection into the left pleural space. A left chest drain tube was placed and the mechanical ventilation discontinued on the next day.

During the ICU treatment the patient was haemodynamically stable but she was febrile with a daily fever of > 38.5°C and elevated (>14000/mm3) white blood cell count. Because of the complicated postoperative course and the suspicion of infection into the liver tumour mass on repeated CT scan of the abdomen the patient was transferred to our department on 10th p.o. day for further treatment.

During the relaparotomy on day 11 a large amount of necrotic liver tissue was found (Figure 2) and a

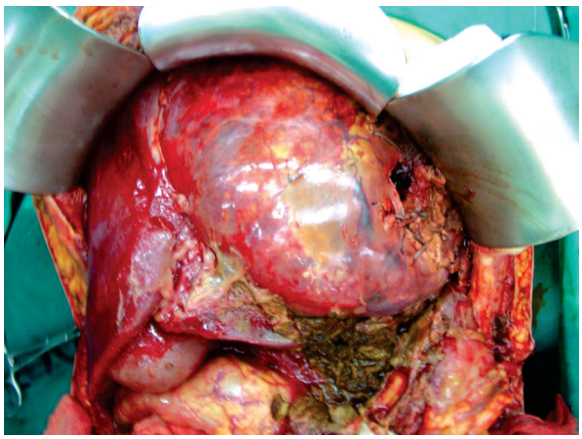

Figure 2: *During the relaparotomy on day 11 a large amount of necrotic liver tissue was found and most of the huge tumour-like lesion was haematoma*

left lobectomy was performed (resection involved segment II and III) as a definitive surgery of the hepatic adenoma. The surgical specimen contained the left hepatic lobe which measured 17x17x6 cm. Sectioning of the lobe revealed a tumour with a greater diameter of 13cm. The tumour was solid but it contained large necrotic and haemorrhagic foci. Multiple histological sections of the neoplasm revealed extensive haemorrhagic and necrotic areas. At the periphery, the neoplasm consisted of moderately enlarged hepatocytes with eosinophilic cytoplasm arranged mostly in two-cell thick plates (Figure 3). Mitosis or nuclear atypia were not found. The histological findings were consistent with HA. The patient was stable during the operation and 4 units of packed red blood cells were transfused. The

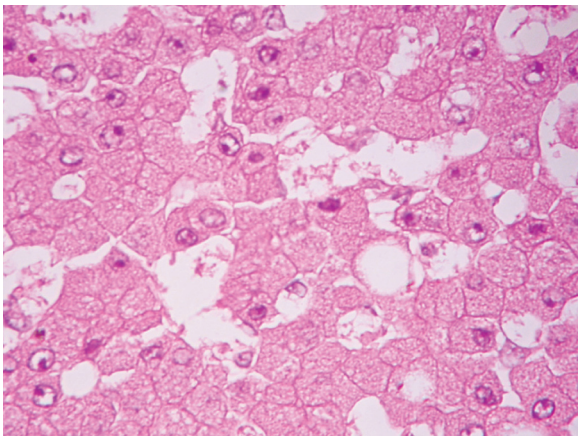

Figure 3: *Hepatocellular adenoma. Hepatocyte in two-cell thick plates. There is no cytologic atypia. AE x 400*

postoperative course was complicated by mild acute respiratory distress syndrome and acute tubular necrosis. The patient remained for 10 days in the ICU and afterwards she was transferred in the ward, with chest drains both in left and right side, ascetic fluid collection and mild daily fever. The patient was discharged 4 weeks after the second operation.

Discussion

Hepatocellular adenoma (HA) is a rare benign tumour of the liver. The lesions most often are seen in young women using oral contraceptives and the incidence of HAs is also increased in patients with glycogen storage disease, diabetes mellitus, haemochromatosis, acromegaly, and in males using anabolic steroids[4,5]. Sometimes occur in the absence of any obvious cause[6] and our patient is considered to belong to the last category.

Hepatocellular adenoma usually comes to attention because of acute abdominal pain resulting from haemorrhage within the tumour. Consequent rupture into the peritoneal cavity sometimes occurs and this is possibly a fatal complication[7]. Tumour rupture or dramatic bleeding occurs in approximately one third of patients. The patients typical present with severe upper abdominal pain, abdominal distension, anorexia and vomiting. Facial pallor, cold sweat, increased pulse rate, drop in systolic pressure, tenderness, rebound tenderness and muscular tension over upper abdomen are the most frequent signs.

HAs rarely undergo malignant transformation to hepatocellular carcinoma (HCC), even after years of maintaining a stable appearance[8]. Moreover, HAs and HCC may have similar imaging features and even histopathologic features, making differentiation difficult or impossible. Other criteria, such as interval growth of a mass or elevated serum a-fetoprotein levels, favour the diagnosis of HCC.

For a ruptured adenoma the treatment principle is

similar to that of primary liver cancer. If patients' condition is stable and the tumour is localized in one lobe or segment of the liver, partial hepatectomy should be performed instantly. If blood loss is massive, and the tumour is considered unresectable, then the management should be ligation or embolization of hepatic artery to control bleeding[9]. Delayed resection can be performed after successful haemostasis[10]. Liver transplantation can be considered for diffuse adenomatosis or if the tumour exceeds half of the liver in diameter[11].

Our patient was managed by two stage treatment. Initially haemostasis was achieved by a combination of several standard haemostatic procedures (electrocoagulation, haemoclips, and deep figure-of-eight liver sutures as well as ligation of the left hepatic artery) performed in another institution due to massive tumour rupture. Tumour resection was not performed at that time because of the emergency of the situation and the increased risk of mortality from 1% in elective resections to 5-10% in those with intra-abdominal haemorrhage[12,13]. After a relative short period in the ICU the patient was transferred to our Liver Unit where a left lobectomy was performed electively.

In conclusion, considering the possible postoperative complications and the increased mortality the management of ruptured hepatic adenomas in two stages can be proposed as a treatment modality especially in emergency cases admitted to inexperienced centres. Controlling the haemorrhage and then referring the patient to a specialized hepatic centre for the additional treatment could be justified as the appropriate management of a ruptured HA with massive intraperitoneal haemorrhage.

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