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Case Report

Huge Hepatocellular Adenoma

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ABSTRACT

Hepatocellular adenoma (HCA) is generally uncommon benign liver tumor with potential to become malignant. Its prevalence has been increasing steadily secondary to wide use of oral contraceptives and due to the increased use of imaging for a variety of unrelated reasons. Large adenomas may present with chronic abdominal pain. As HCA become larger it is prone to rupture and hemorrhage due to central necrosis because the vascular supply is limited to the surface of the tumor. If left untreated HCA can undergo transformation into hepatocellular carcinoma which can be as high as in 10% of cases[1] or even higher. Surgical excision is a preferred method of treatment. Other modalities include embolization of bleeding tumors and ablative modalities in selected cases.

Case Report

We describe a case of a large hepatocellular adenoma (HCA) diagnosed in a 51 years old Caucasian female. She was referred to us with a 1-year history of constant mild RUQ pain for which she initially underwent ultrasound investigation. It revealed large neoplasm at the upper pole of the right kidney, deforming liver, without signs of invasion, presumably originating from the right adrenal gland or retroperitoneum. She had no significant past medical history. She denied usage of oral contraceptives. Clinical examination of the abdomen did not reveal any palpable mass. Laboratory tests including full blood count, U&E, liver function tests and coagulation profile were all within normal limits, markers for hepatitis B and C were negative, a-fetoprotein was 4.0 ng/ml, CA 19-9-1.59 U/ml.

A contrast enhanced triphasic abdominal computer tomography (CT) scan confirmed the presence of a nodular lesion of about 15 cm in diameter in the right lobe of the liver, compressing on the upper pole of the right kidney but without any signs of invasion (Figure 1). There were dilated segmental biliary ducts noted within the lesion. She underwent a robotic CT-guided translumbar core needle biopsy of the tumor using Robio EX Perfint navigation tool (Figure 2). It confirmed the diagnosis of hepatocellular adenoma based on both histological and immunochemistry appearance. On the basis of the clinical, histological and CT scan findings she was subjected to laparotomy and liver resection. The optimal approach to the tumor was attained by Mersedes Benz incision. The patient underwent removal of the tumor with resection of SVII-VIII of the liver along with right adrenalectomy.

The resection required meticulous mobilization of the tumor from diaphragm, IVC, duodenum and pancreas which was accompanied by bleeding from dilated blood vessels in retroperitoneum and resulted in 2000 ml blood loss. Post-operative course was uneventful. The pathological examination showed a mass of 17 cm in a maximum dimension with a smooth, regular external surface; there were an area of necrotic, haemorrhagic tissue centrally (Figure 3). The capsule of normal adrenal gland was fused with tumor capsule. Microscopic examination confirmed the diagnosis of HCA.

Discussion

Hepatocellular adenoma (HCA) is generally uncommon benign liver tumor with potential to become malignant[1]. Its prevalence has been increasing steadily secondary to wide use of oral contraceptives and due to the increased use of imaging for a variety of unrelated reasons [1, 2]. Other possible etiologies of liver cell adenoma include Klinefelter's syndrome Types I, III and IV glycogen storage disease and familial adenomatous polyposis [3-6]. Our patient denied usage of oral contraceptives, she was not tested for other possible causes of HCA. Small uncomplicated HCAs in majority of cases are asymptomatic and can only be incidentally picked up on imaging or during laparoscopy [1]. Large adenomas may present with chronic abdominal pain [1, 7]. As

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HCA become larger it is prone to rupture and hemorrhage due to central necrosis because the vascular supply is limited to the surface of the tumor [1, 8]. Rupture of adenoma causes massive haemorrhage with shock and acute abdominal pain [1, 7]. If left untreated HCA can undergo transformation into hepatocellular carcinoma (HCC) which can be as high as in 10% of cases or even higher [1, 4]. Therefore, surgical resection is advocated in most patients with presumed adenomas.

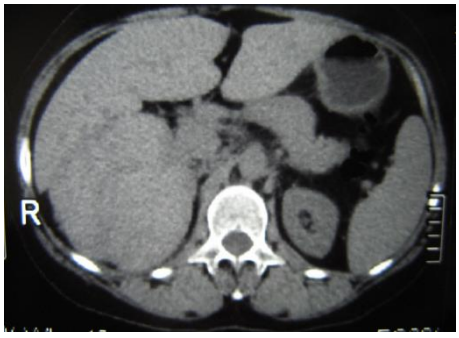

Figure 1: Computer tomography showing large liver tumor.

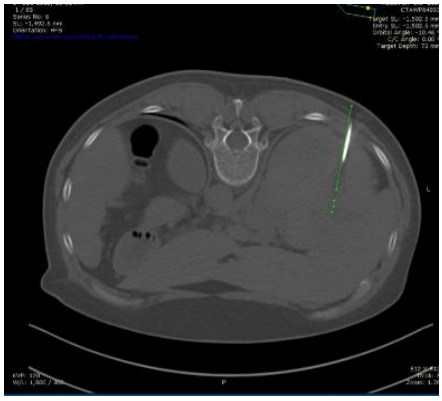

Figure 2: Robotic CT-guided core needle biopsy of the large liver tumor.

HCA sometimes can mimic other liver lesions such as focal nodular hyperplasia, benign liver lesion of vascular origin or well-differentiated HCC tumors [1]. In our case after initial ultrasound assessment the tumor was thought to originate from right adrenal gland or to be retroperitoneal tumor. Although, the ultrasonographic features of HCA are known to be non-specific [1]. However, with advent of modern cross-sectional imaging the diagnosis can be established rather accurately [1, 8]. The classical CT appearance of HCA is early phase peripheral contrast enhancement with subsequent central enhancement, whereas, in focal nodular hyperplasia the enhancement starts centrally due to vascular supply from artery which arises centrally [8].

Figure 3: The specimen of resected hepatocellular adenoma.

Hepatocellular adenoma was first described by Edmondson in 1958 as an encapsulated liver tumor that does not contain bile ducts [9]. In our case the CT report stated that the lesion contained dilated segmental bile ducts which did not support the diagnosis of adenoma and therefore the biopsy was warranted. Unfortunately, percutaneous core needle biopsy not always accurate and does not rule out HCC even if no malignancy is found [10]. There is also risk of bleeding and tumor dissemination associated with biopsy, therefore, excision biopsy is the gold standard method for diagnosis [1]. Surgical excision is also a preferred method of treatment. Other modalities include embolization of bleeding tumors and radiofrequency ablation in selected cases [1]. They were not feasible in our case.

Conflicts of Interest

None.

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