MANAGEMENT OF PRIMARY LIVER TUMORS

Essay

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General Surgery

By

Ahmed Ahmed Abdou
M.B.B.Ch

Supervised By

Prof. Dr. Khaled Zaky Mansour

Professor of General Surgery
Faculty of medicine
Ain Shams University

Dr. Ahmed Nafei
Lecturer of General Surgery
Faculty of Medicine
Ain Shams University

Faculty of Medicine
AIN SHAMS UNIVERSITY
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INTRODUCTION

In the last few years, the number of primary liver tumours considered to be of the most common malignancies. They are accounting for around 1.2 million deaths per year. There is a considerable geographical variation however, with incidence in some parts of Africa and Asia in the regions of 100/ 100000 population per year compared to 2 – 4 / 100,000 per year in UK ***(Schwartz, 2000).***

Malignant neoplasm may arise in the liver from hepatocytes (hepatocellularcarcinoma), intrahepatic bile ductules (cholangiocarcinoma) and mesenchymal elements such as blood vessels (angiosarcoma and hemangioendothelioma) ***(Liovet et al., 2008).***

The symptoms of hepatoma whether in patients with liver disease or occurring sporadically are relatively non specific. The increase use of ultrasonography which is available to general practitioners has increased the number of the focal liver lesions being discovered ***(Leen, 2001).***

There are several standard procedures and technology has greatly improved the diagnosis of liver tumors as spiral and multislice computed tomography, angiography, fine needle aspiration and magnetic resonance imaging. This allows better preoperative staging of patients, therefore more appropriate surgical treatment ***(Jain, 2003).***

The results of liver local ablative therapy as ethanol injection, hepatic artery embolization, radiofrequency and resection either partial or hepatectomy with transplant have improved markedly in the recent years due to: firstly surgeon has much better understanding of liver anatomy with respect to the segment secondary the technology has greatly improved with use of ultrasound dissector, Argon diathermy and lastly the

anesthesia improved with use of low central venous pressure anaethetics ***(Chas et al., 2003).***

Systemic treatment, chemotherapy, genotherapy, immunotherapy and hormonal therapy are given when there is extrahepatic dissemination of Hepatocellular carcinoma ***(Habib et al., 2002).***

AIM OF THE WORK

To discuss diagnosis and treatment of primary liver tumors to reach early diagnosis with update methods of treatment.

SURGICAL ANATOMY OF THE LIVER

The liver, the largest gland in the body, has both external and internal secretions, which are formed in the hepatic cells. Liver is situated in the upper and right parts of the abdominal cavity, occupying almost the whole of the right hypochondrium, the greater part of the epigastrium, and not uncommonly extending into the left hypochondrium as far as the mammillary line. In the male it weighs from 1.4 to 1.6 k. gm, in the female from1.2 To 1.4 k. gm. It is relatively much larger in the fetus than in the adult, constituting, in the former, about one-eighteenth, and in the latter about one thirty-sixth of the entire body weight. Its greatest transverse measurement is from 20 to 22.5 cm. vertically, near its lateral or right surface, it measures about 15 to 17.5 cm, while its greatest anteroposterior diameter is on a level with the upper end of the right kidney, and is from 10 to 12.5 cm ***(Williams et al., 2004).***

Surface anatomy of the liver

The upper border of the right lobe

It is at the level of the 5^{th} rib at a point 2 cm medial to the right mid clavicular line. The upper border of the left lobe corresponds to the upper border of the 6^{th} rib at a point in the left mid clavicular line. Here only the diaphragm separates the liver from the apex of the heart ***(Last,2000).***

The lower border

It passes obliquely upwards from the 9^{th} right to the 8^{th} left costal cartilage. In the right nipple line it lies between a point just under 2 cm below the costal margin. It crosses the midline about midway between the base of the xiphoid and the umbilicus and the left lobe extends only 5 cm to the left of the sternum ***(Snell, 2000).***

The Right border

Extends from the right 7th to 11th ribs in midaxillary line ***(Das, 1996)***

Surfaces

The liver possesses three surfaces, superior, inferior and posterior. A sharp, well-defined margin divides the inferior from the superior in front. The other margins are rounded. The superior surface is attached to the diaphragm and anterior abdominal wall by a triangular or falciform fold of peritoneum, the falciform ligament, in the free margin of which is a rounded cord, the ligamentum teres The line of attachment of the falciform ligament divides the liver into two parts, termed the right and left lobes, the right being much the larger. The inferior and posterior surfaces are divided into four lobes by five fossae, which are arranged in the form of the letter H (Fig 1). The left limb of the H marks on these surfaces the division of the liver into right and left lobes; it is known as the left sagittal fossa, and consists of two parts, the fossa for the umbilical vein in front and the fossa for the ducts venosus behind. The right limb of the H is formed in front by the fossa for the gall-bladder, and behind by the fossa for the inferior vena cava; these two fossae are separated from one another by a band of liver substance, termed the caudate process. The bar connecting the two limbs of the H is the porta in front of it is the quadrate lobe, behind it the caudate lobe ***(Williams et al., 2004).***

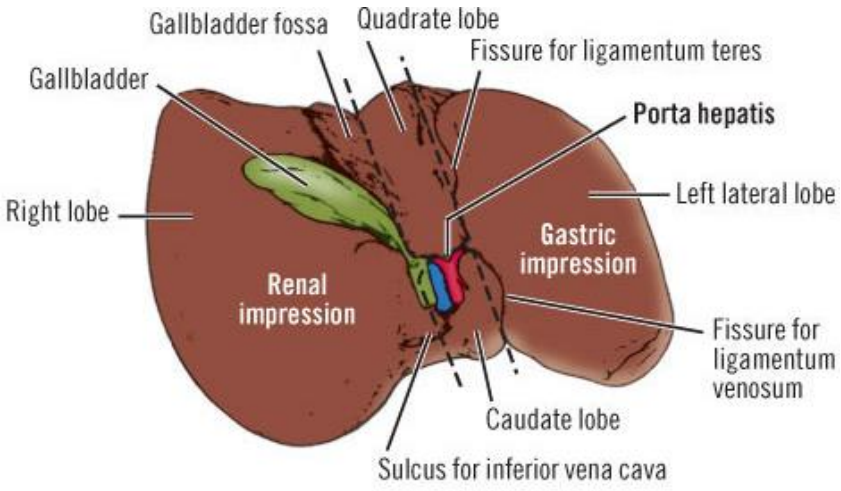

Fig. 1: Porta hepatis and features of the visceral surface of the liver. Typical orientation of the H configuration of the portal structures ***(Skandalakis et al., 2004).***

The superior surface (Fig. 2)

It is convex, and fits under the vault of the diaphragm which in front separates it on the right from the sixth to the tenth ribs and their cartilages, and on the left from the seventh and eighth costal cartilages. Its middle part lies behind the xiphoid process, and, in the angle between the diverging ribs cartilage of opposite sides, is in contact with the abdominal wall. Behind this the diaphragm separates the liver from the lower part of the lungs and pleurae, the heart and pericardium and the right costal arches from the seventh to the eleventh inclusive. It is completely covered by peritoneum except along the line of attachment of the falciform ligament ***(Skandalakis et al., 2004)***

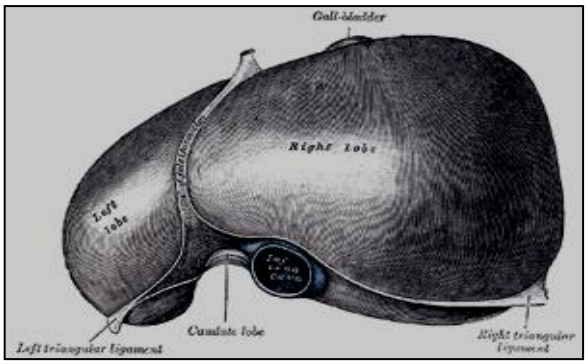

Fig. 2: showing the superior surface of the liver ***(Williams et***