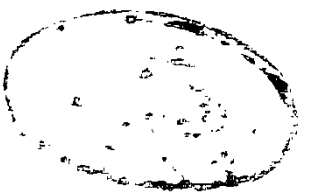
LIVER ABSCESSES

Essay

SUBMITTED IN PARTIAL FULFILMENT

FOR (M. S.)

(GENERAL SURGERY)



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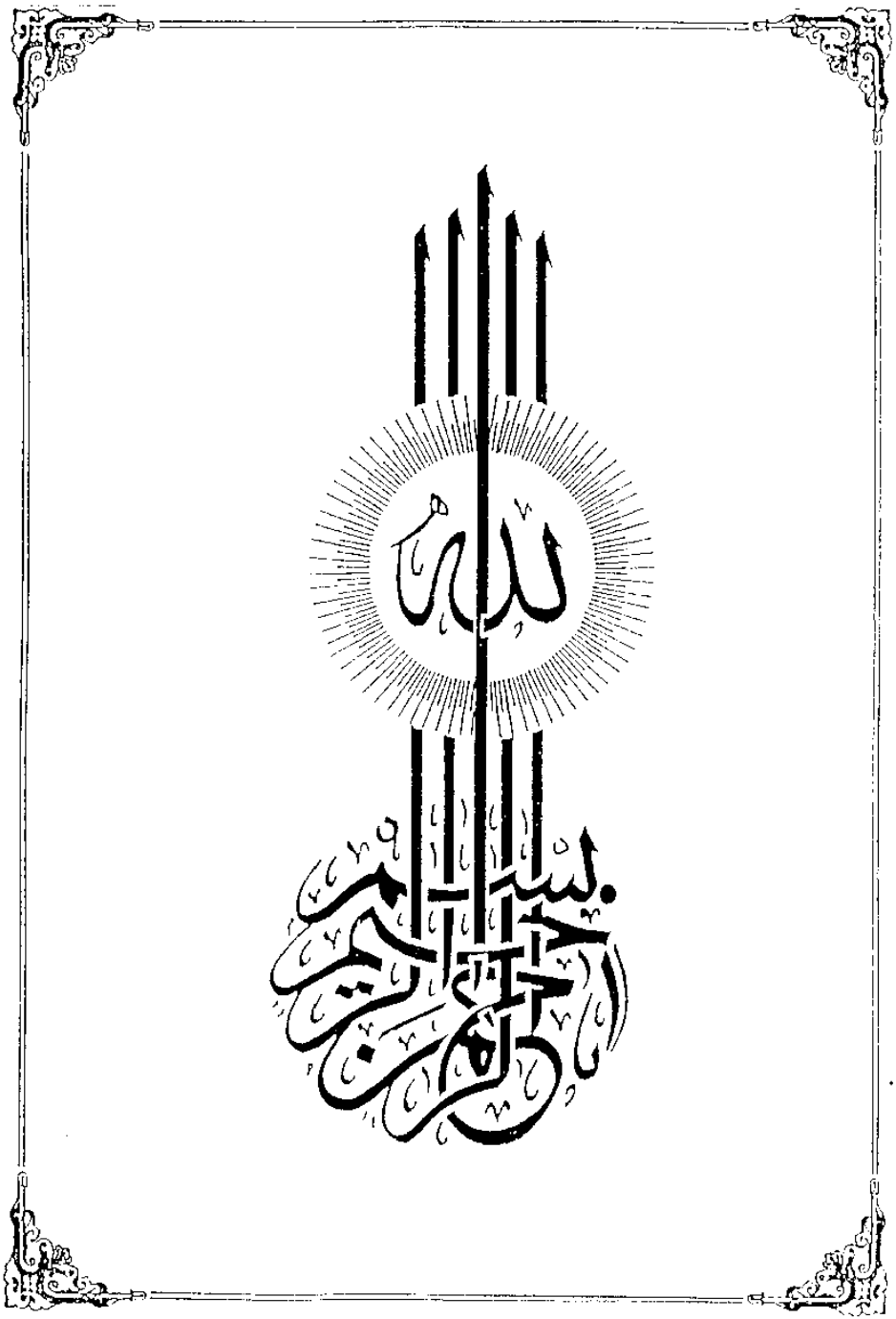

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Despite continuous exposure to microbial organisms and their toxins, the liver of humans ,unlike that of dogs and other expereimetnal animals, is normally sterile as is normal portal blood.

When portal bacterial shawers occur, however, the lvier is able to eleminate bacteria from blood stream.

In patients with subacute bacterial endocarditis, they had a lower concentration of organismsin the hepatic vein blood than in the peripheral blood.

In spite of filtering function of the lvier, bacterial infections are rare and usually occur in the form of abscesses.

In most instances, the morphologic changes observed during septicaemia are caused by toxic damage to the hepataocytes.

Abscess of the liver may occur in general pyaemia, portal pyaemia, suppurative cholangitis and actinomycasis, or may follow infection of a cyst, haematoma or a tumour.

Amebic liver abscess is by far the commonest and most important variety.

REVIEW OF LITERATURE

ANATOMY OF THE LIVER

ANATOMY OF THE LIVER

The liver, the largest gland in the body is situated in the upper and right parts of the abdominal cavity, occupying almost the whole of the right hipochondrium, the greater part of the epigastrium and extneding into the left hypochondrium as far as the left lateral line.

In the male it commonly wighs from 1.4 to 1.8 kg., in the female from 1.2 to 1.4 kg., with however a range of 1.0-2.5 kg. It is relatively much larger in the fetus than in the adult. It is wedge-shaped, reddish brown in colour and although firm and plaint to the touch, it is friable and easily lacerated. For this reason wounds of the liver must not be too tightly sutured.

Owing to its great vascularity, wounds of the liver cause considerable haemorrhage. In spite of its relatively great weigth,it is widely held that the liver, like the other abdominal organs is maintained in its position, not by its peritoneal folds or connective tissues attachments but by the general intraadbdominal pressure due to the tonus of the abdominal muscles. Continuty of the hepatic veins with the inferior vena cava also provides some support. However, it should be noted that rather dogmatic statements such the fore-going should be treated with caution.

In the abscence of systemic studies of the intra-abdominal perihepatic pressure gradients and their variations with posture, respiration, gastrcintestintal dilatation and so forth, together with studies of the static and dynamics of the peritoneal folds, connective tissues, adjacent viscera and vascualr pedicles, our knowledge of the mechanisms maintaining the position of the lvier remains quite rudimentary. (Roger Warwik and Peter Williams,1973).

The liver may enlarge, but it never falls down into the abdominal cavity. It is supported by the hepatic veins. The conventional claim that the liver is supported by the tone of the abdominal muscles and by the atmospheric pressure is not tenable, as every surgeon knows.

Incision of the abdominal wall equalizes atmospheric pressure within and without and at operation, especially under modern anaesthesia, the tone of the abdominal muscles is abscent or negligible; yet even under these conditions the liver can at best be rotated only slightly. Post-mortem the liver can not be displaced caudally untill the inferior vena cava is divided.

The liver is suspended tc the inferior vena cava by the hepatic veins, which are entirely intra-hepatic

in their course.

Hepatic Lobes and Segments

An important distinction must be made between the anatomical and the functional lobes of the liver. Anatomically, there is a small left lobe and a much larger right lobe which is also taken to include the caudate lobe (on the posterior surface) and the quadrate lobe (on the inferior surface).

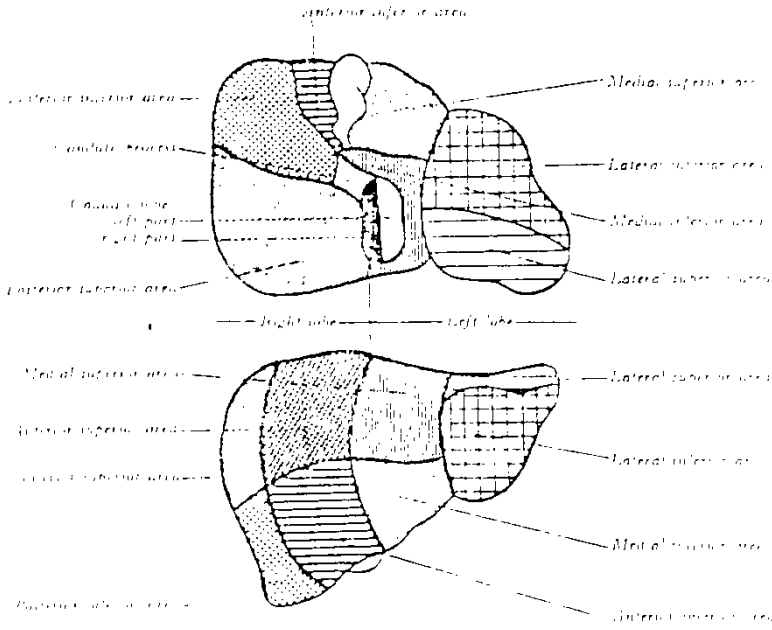
The boundary between the right and left lobes is marked from above and in front by the falciform ligament, and below and behind by the fissures for the ligamentum teres and ligamentum venosum. However, from the functional point of view, the territory supplied by the right and left branches of the hepatic artery and portal vein, and drained by the right and left hepatic ducts, does not correspond to the main anatomical lobes. The caudate and quadrate lobes, although anatomically belonging to the right lobe, are supplied by the left branches of the vessels and drained by the left hepatic duct.

The small bridge of liver tissue connecting the caudate lobe with the main part of the right lobe is

the caudate process. It lies between the right extremity of the porta hepatis and the groove for the vena cava, and forms the upper boundary of the epiploic foramen.

The caudate lobe lies between the fissure for the ligamentum venosum and the inferior vena cava. The quadrate lobe is between the fissure for the ligamentum teres and the gall bladder. These two fissures on the right and the vena cava and gall bladder on the left form the uprights of a capital H: the cross piece is the porta hepatis, a groove about 5 cm long where vessels and ducts enter and leave, corresponding to the hilum of the spleen, kidney and lung.

On the basis of blood supply and bilairy drainage the liver can be divided into a number of segments.



So far four segments are recognized in official anatomical nomenclature-left lateral and left meidal,right anterior and right posterior-although more elaborate subdivisions have been proposed, with upper and lower parts to each segment

The left lateral segment corresponds to the anatomical left lobe, and the left medial segment to the caudate and quadrate lobes, with the line of the fissures for the ligamentum teres and ligamentu venosum demarcating these segments from one another.

The line of demarcation of the main (functional)part of the right lobe from the rest of the liver is along the gall bladder fossa and the inferior vena caval groove psoteriorly; there is no visible suface marking for this line anteriorly, but it should be noted that this plane of division lies well to the right of the falciform ligament. The right anterior and right posterior segments of the right lobe again have no visible external demarcation line, but this usually runs obliquely and medially from the middle of the front of the right lobe towards the vena caval groove.

The segment have particular improtance in hepatic surgery because there is negligible anastomotic connection

extending downwards to the umbilicus, as this attachment ascends from the umbilicus, it passes slightly to the right of the median plane. The falciform ligament is attached to the notch for the ligamentum teres on the inferior border of the liver and to the anterior and superior surface of the liver.

Its free edge, which extends from the umbilicus to the notch for the ligamentum teres, contains the ligamentum teres and the small para-umbilical veins and leis in front of the pyloric portion of the stomach. At its upper end the two layers of the falciform ligament separate from each other and expose a small triangular areas on the superior surface of the liver which is devoid of pertionium.

The left layer becomes continuous with the anterior layer of the left triangular ligament: the right with the upper layer of the coronary ligament. The coronary ligament is formed by the reflexion of the peritoneum from the diaphragm to the superior and posterior surfaces of the right lobe.

It consists of an upper and a lower layer, continuous at their right extremities with the right triangualr ligament of the liver but diverging widely to the left