BILIARY STENTING, VALUES AND LIMITATIONS

Essay

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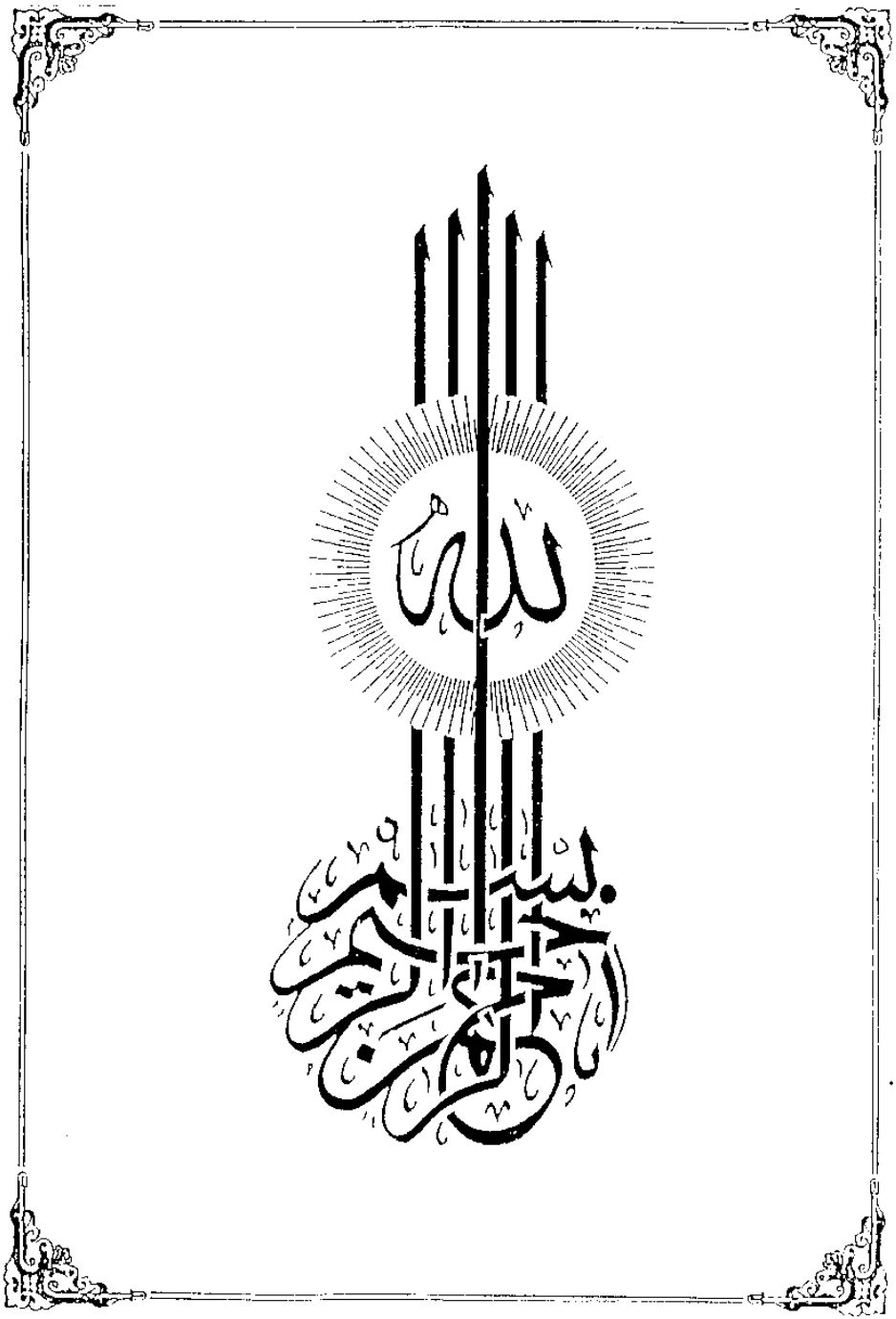

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Bile duct strictures represent one of the most difficult challenges that a biliary surgeon may face .

Despite numerous technological development that have facilitated diagnosis and managment , bile duct strictures remain a significant clinical problem .

If they are unrecognized or are managed improperly, life threatening complications may develop .

Non surgical drainage of the biliary tract was established more than 10 years ago and now considered the treatment of choice in patients with incurable malignant jaundice because it offers palliation at a lower risk than other procedures .

3 techniques were developed , endoscopic drainage , percutaneous transhepatic drainage and a combined technique .

The aim of this work is to put the light on biliary drainage including stenting , its values and limitations as a non surgical drainage of the biliary tract .

THE EXCRETORY APPARATUS OF THE LIVER

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It consists of : (1) Common Hepatic duct .
(2) The gall bladder .
(3) The cystic duct .
(4) The common bile duct.

The common hepatic duct , **formed by the union of the right and left hepatic duct near the right end of the portahepatis . The right and left hepatic ducts are formed of union of interlobular ducts** ***.(Cunningham,1964)***

The common hepatic duct passes downwards for about 3 cm . It unites with the cystic duct to form the common bile duct . ***(Gray , 1967)*** **.**

The common bile duct : **is on the right of the hepatic artery proper and in front of the portal vein . It is about 7 cm in length and 6 mm in diameter . It runs downwards , backwards and to the left .It passes behind the 1st part of the duodenum with the gastroduodenal artery on its left , and then runs in a groove on the upper and lateral part of the posterior surface of the inferior vena cava and is sometimes completely embedded in the pancreatic substance .** ***(Gray , 1967)*** **.**

The bile duct may lie close to the left border of the descending part of the duodenum or lie as far away as 2cm. from the duodenal wall . *(Litle et al., 1959)* .

At the left side of the descending part of the duodenum it comes into contact with the pancreatic duct and accompanies it into the wall of this part of the gut , and there the two ducts usually unite to form the hepato pancreatic ampulla , the distal , constricted end of this ampulla opens into the descending part of the duodenum on the summit of the major duodenal papilla situated about 8 cm to 10 cm from the pylorus . *(Gray , 1967)* .

The bile duct may be indicated on the anterior surface of the abdomen by a line which begins 5 cm . above the transpyloric plane and 2 cm to the right of the median plane , and runs downwards for 7.5 cm .*(Gray , 1967)* .

THE GALL BLADDER

A Pear shaped sac lodged on the under surface of the liver . It is almost covered by a peritoneum .

It is about 7 cm long , 3 cm broad and 30-50 cc in Capacity.

Its fundus corresponds to the Tip of 9 Th. costal cartilage where the lateral edge of the right rectus abdominus crosses the costal margin . *(Gray , 1967)* .

The cystic duct

The cystic duct , about 3-4 cm passes backwards , downwards , to the left . It joins the common hepatic duct at an acute angle to form the bile duct , The junction is usually situated below the porta-hepatis of the liver *.(Gray , 1967).*

" PORTAHEPATIS "

It is Placed on the inferior surface of the liver between the quadrate lobe in front and the caudate process behind .

It is a deep fissure which runs transversely between the upper ends of the fissure for ligamentum Teres and the fossa for the gall blabber . Through the porta hepatis the portal vein , the hepatic artery proper and the hepatic plexus of nerves enter the liver , and the right and left hepatic ducts , also some lymph vessels emerge . The hepatic ducts are situated anteriorly , the portal vein and its right and left branches are posteriorly , The hepatic artery proper and its right and left branches are intermediate in position .

The portal vein , hepatic artery proper and the bile duct are all enclosed in a loose aereolar tissue termed the perivascular fibrous capsule during their course between the layers of the Lesser omentum . (. Gray, 1967) .

HISTOLOGICAL CONSIDERATIONS

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The bile canaliculus , Wherever 2 hepatocytes abut, they delimit a tubular space between them known as the bile canaliculus .

These canaliculi are the first portions of the bile duct system . They are tubular spaces limited by only the plasma membranes of 2 hepatocytes and have a small number of microvilli in their interior . The cell membranes near these canaliculi firmly bound By Occluding junctions . Gap junctions are frequent between hepatocytes and are sites of intercellular communications , an important process for the coordination of the physiologic activities of these cells . The bile canaliculi form a complex anastomosing network progressing along the plates of the liver lobule and terminating in the region of the portal canals . The bile flow therefore progresses in a direction opposite to that of the blood , ie ,from the center of the lobule to its periphery . At the periphery the bile enters the bile ductules , or Hering's canals . These are composed of cuboidal cells with a clear cytoplasm and few organelles . After a short distance , these bile ductules cross the limiting hepatocytes of the portal lobule and end in the bile ducts in the portal triads.

These ducts are lined by a cuboidal or columnar epithelium and have a distinct connective tissue sheath .

They gradually enlarge and fuse , forming the right and left hepatic ducts that subsequently leave the liver .

(Basic histology by L.C . Junqueira , 1983) .

PHYSIOLOGICAL CONSIDERATIONS