PANCREATITIS

ESSAY

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بسم الله الرحمن الرحيم

وما اوتيتم من العلم إلا قليلاً

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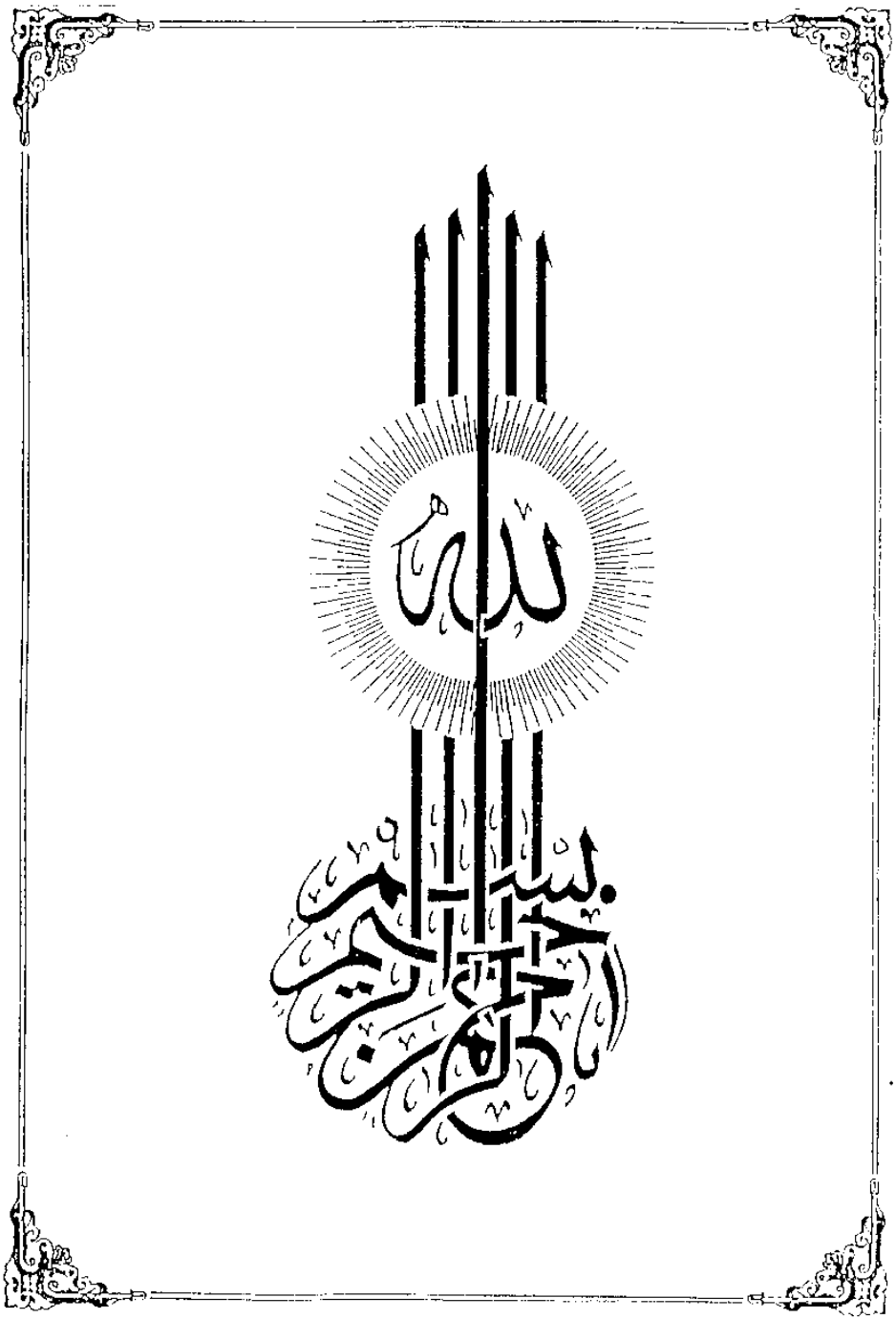

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INTRODUCTION

Acute and chronic pancreatitis has been represented by high rate of morbidity and mortality due to difficulties in diagnosis, laboratory, investigations, hence the subsequent differential diagnosis and treatment in the proper time and technique.

Much has been written on the various forms of pancreatitis since OPIE's description of a patient with acute pancreatitis 1901.

Also untill 1904, chronic pancreatitis was thought to be rare, and was only usually recognized at autopsy.

Classification was a matter of discussion till Marseilles classification and its modification.

Great advances have occurred recently in the laboratory, radiological and scanning techniques. Some of the laters include E.R.C.P., Intraoperative pancreatography, ultrasonography and C.T.S.

Thanks to these advances it has been possible to reach a proper aetiological diagnosis of pancreatitis and to achieve a valuable management.

This explains the increased incidence of pancreatitis and the progressive declines in the morbidity and mortality rates.

In the present study, the various facets of acute and chronic pancreatitis with their manifestations and management are dealt with aiming at a fresh approach to the subject from various points of view.

EMBRYOLOGY

Pancreas is an endodermal in origin arising in the dorsal wall of the duodenum seen in the 3 mm human embryo and identified as the first appearance of pancreas.

Pancreas consists of a dorsal and ventral portion the dorsal pancrease grows directly from the duodenum towards the spleen. This portion of the gland empties into the duodenum through the duct of Santorini.

Somewhat later an additional pouch sometimes two appears on the inferior portion of an angle formed by the duodenum and the devloping hepatic bud. This later pouch (or pouches) constitute the ventral. Pancreas it is drained by Wirsung duct into the duodenum. Through a connection with the side of the common bile duct.

The dorsal pancreas grows more rapidly than the ventral one.

Between the sixth and seventh week. rotation of the duodenum and common bile duct carries the ventral pancreas to the right subsequently fusion occurs between the dorsal and ventral pancreas. The ventral pancreas becoming the uncinate process.

Later on the ducts join to create a common excretory system into the duodenum. The distal portion of the duct of wirsung usually joins the middle of the duct of Santorini adjacent to the portal vein.

In 10% of cases the duct of Santorini is completely independent of the duct of wirsung and drain by itself. In 90% of cases the duct of wirsung is the principal excretory route for pancreatic juice (White, 1973).

Anomalies:

Congenital malformation may produce clinical symptoms in human. Those are clinically recognised as:

Agenesis:

Congenital agenesis or absence of pancreas had been reported usually associated with multiple anomalies in infancy agenesis of dorsal pancreas is more common.

Pancreatic heterotopia:

Is more common congenital malformation. The ectopic pancrease may be found almost anywhere along the gastrointestinal tract in duodenum stomach or jejunum. These aberrant tissue may undergo the same pathology as the pancrease leading to peptic ulceration, pyloric obstruction and haemorrhage treatment is by local excision. (Nardi 1983).

Annular pancreas :

Is a relatively rare congenital malformation thought to result from fixation of the free end of the ventral pancreas which result in encirculement of the duodenum as it rotates to fuse with the dorsal analge.

Conditions may be asymptomatic or may present with complete obstruction associated with other anomalies in new born .

The most common complication is duodenal ulcer and duodenal obstruction with postprandial vomiting treated by by-pass operation in the form of gastro-enterstomy X-ray shows a dilated stomach and proximal duodenum (double bubble sign) (Reber and Way,1981).

Pancreas divisum:

There is failure of fusion between ductal systems of the dorsal and ventral pancreatic analage it is believed that the duct of santorini draining through minor papilla is inadequate for normal volume of

pancreatic secretion, therefore causing relative obstruction, giving rise to epigastric pain as seen in chronic pancreatitis.

Treated surgically by resection to lower the exocrine load and by sphinctroplasty (Nardi 1983).

ANATOMY OF THE PANCREAS

The pancreas is a soft lobulated greyish pink gland, 10-20 cm long, extending nearly transversly across the posterior abdominal wall.

Fixed retroperitoneal position crossing abdomen behind the lesser omental bursa. It lies transversly in the upper abdomen extending from the duodenal curve on the right to the hilus of spleen on left.

It is 3-5 cm. in width it is thickest at the head and uncinate process where it measures 2-3 cm. The average weight of the pancreas approaches 100 gm. It lies in a retroperitoneal, retrogastric position and crosses the vertebral column at the 1st lumbar vertebra. Just below the coeliac axis.

Because of this relatively fixed position over the vertebral column, the pancreas is susceptible to injury by blunt trauma.

Since the pancreas lies behind the lesser omental bursa, much of it is hidden from view by stomach, transverse colon, gastrohepatic and gastrocolic ligaments as a consequence injuries and tumours may easily escape causal exploration.

The absence of mesentery partially explains the low rate of resectability and curability of cancer of pancreas. This is due not only to the early direct invasion of the posterior abdominal wall but also to the anatomy of pancreatic lymph drainage excision of these nodes is accomplished only with "a node-picking" type of procedure rather than an en block resection with wide surgical margins. Its broads, right extremity is called the head and is connected to the main of the body by slightly constricted neck. It narrows left and forms the tail. it passes obliquely to the left in the epi-gastrium and left hypochondrium regions (Warick and Williams 1973).

The head of the pancreas is moulded to the concavity of the duodenum, it lies over the inferior vena cava right and left renal veins. The lower part of the posterior surface is prolonged to the left behind, the superior mesenteric vessels, in front of the aorta, this is called the uncinate process.

Anterior surface:

From the anterosuperior aspect of the head of the pancreas the neck justs forwards and to the left, into the body of the pancreas . The boundary between the

head and the neck is demarcated anteriorly on its right side by agroove for gastroduodenal artery.

On the left side posteriorly a deep notch, intervenes between head and neck and in it, the superior mesenteric and splenic veins unite to form the portal vein below and to the right of the neck. The anterior surface of the head is in contact with transverse colon the lower surface is covered with peritonium, continuous with the inferior layer of the transverse mesocolon.

The posterior surface:

Is related to the inferior vena cava which, runs upwards behind it, and covers nearly the whole of this aspect. It is also related to the terminal part of the renal vein and right crus of the diphragm the bile duct lies either in agroove on the upper and lateral part of the posterior surface or, in a canal in its substance (Warick and William 1973).

The neck:

Measuring about 2 cm long, it extends forwards and to the left from the head and merges into the body, its anterior surface is covered by peritonium and

adjoins the pylorus, while the posterior surface is in relation to the begining of the portal vein. Part of the omental bursa intervening the gastroduodenal arteries, descends in front of the gland at the right side of the junction between the head and neck (Warick and William 1973).

The body of the pancreas :

Is somewhat prismoid in section and has three surface. The anterior surface is concave and is covered with peritoneum, namely the anterior ascending two layers of the greater omentum, and it is separated from the stomach by omental bursa. Posterior surface is devoid of peritoneum, and is in contact with the aorta and the origin of the superior mesenteric artery, the left crus of the diaphragm, left suprarenal gland, and the left kidney with its vessels particularly the left renal vein. It is also intimately related to the splenic vein, which courses from left to right, separates it from the structures mentioned. The inferior surface is narrow on the right but gets broader on the left, and is covered with peritoneum of the posterior layers of the transverse mesocolon, it lies upon the duodenojejunal flexure, and on some coils of jejunum. Superior border