PANCREATIC TUMOURS AND CYSTS

ESSAY

SUBMITTED FOR PARTIAL FULFILMENT OF

THE MASTER DEGREE IN

GENERAL SURGERY

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1988

A C K N O W L E D G M E N T

I would like to express my deepest gratitude to **PROF. DR. RAOF GUINDY ABO SEIF**, , Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his support, valuable comments, honest assistance and continuous encouragement throughout this work. It was a great honour to work under his supervision.

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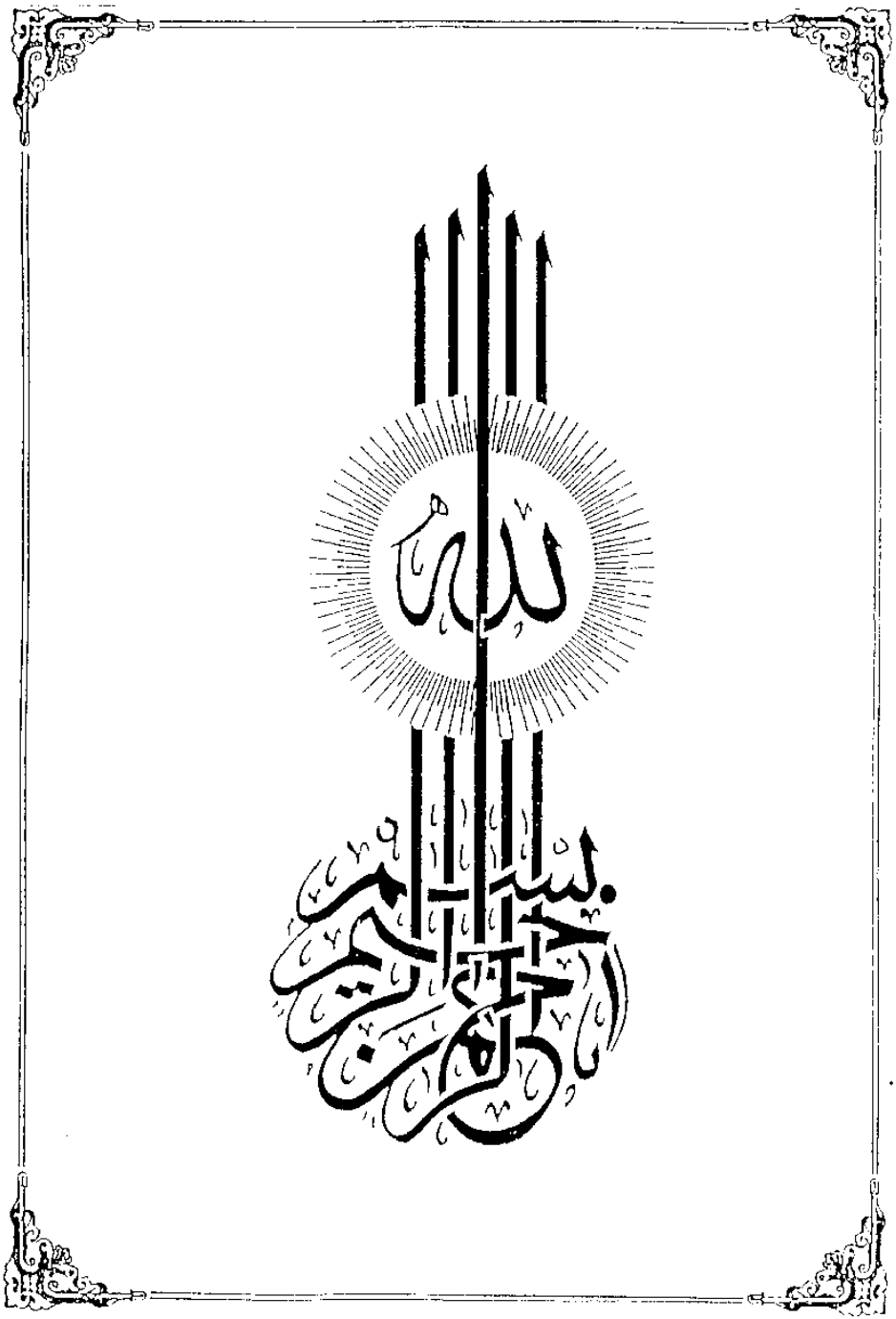

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INTRODUCTION

INTRODUCTION

PANCREATIC TUMOURS AND CYSTS

* The pancreas is one of the most important glands in the body.

* It is composed of both exocrine and endocrine components.

* The exocrine is responsible for secretion of pancreatic juice with its enzymes and the endocrine one which is known as islets of Langerhans secretes many hormones e.g insulin, glucagon and somatostatin.

* In the following essay, a study will be done about the tumours arising from the pancreas including the two components and the cysts of the pancreas which, in general, fall in two basic categories:

1. True cysts. 2. Pseudocysts.

* Emphasis will be directed to the types, pathology, clinical picture, diagnosis and treatment of the tumours and cysts of the pancreas.

REVIEW OF LITERATURE

ANATOMY OF THE PANCREAS

The pancreas is a soft, lobulated, greyish-pink gland, 12-15 cm. long , extending nearly transversely across the posterior abdominal wall, behind the stomach, from the duodenum to the spleen. Its broad, right extremity is called the head, and is connected to the main portion, or the body, by a slightly constricted neck; its narrow, left extremity forms the tail. It passes obliquely to the left and slightly upwards, across the posterior wall of the abdomen, in the epigastric and left hypochondriac regions [Williams and warwick, 1980].

Relations

The Head:

The head, flattened from before backward is lodged within the curve of the duodenum. Its upper border is overlapped by the superior part of the duodenum, the other borders are grooved to receive the adjacent margin of the duodenum, which they overlap in front and behind to a variable extent. Sometimes a small part of the head of the pancreas is actually embedded in the wall of the descending part of the duodenum.

From the lower and left part of the head there is a prolongation named the uncinate process, which projects

upwards and to the left behind the superior mesentric vessels.

In or near the groove between the duodenum and the right lateral and lower borders of the head are the anastomosing superior and inferior pancreatic duodenal arteries.

From the upper part of the front of the head of the pancreas, the neck, runs forwards, upwards and towards the left, to be continued into the body of the pancreas. The boundary between the head and neck, on the right side [and infront], is a groove for the gastroduodenal artery, on the left side [and behined] a deep notch intervenes between the head and the 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 the transverse colon, only areolar tissue interveining, while still the lower surface is covered with peritoneum continuous with the inferior layer of the transferse mesocolon, and is in contact with a coil of the jejunum. The uncinate process is crossed anteriorly by the superior mesenteric vessels.

The posterior surface of the head of the pancreas is related to the inferior vena cava, which runs upwards behind it and covers nearly the whole of this aspect. In addition,

it is related to the terminal parts of the renal veins and the right crus of the diaphragm. The uncinate process passes in front of the aorta. The bile duct lies either in a groove on the upper and lateral part of the posterior surface of the head of the pancreas or in a canal in its substance [Williams and Warwick, 1980].

The Neck:

The neck; about 2 cm long extends forwards; upwards and to the left from the head and merges imperceptibly into the body. Its anterior surface is covered with peritoneum and supports the pylorus; part of the omental bursa intervening; the gastroduodenal and the anterior [superior] pancreaticoduodenal arteries descend in front of the gland at the right side of the junction of the neck with the head; its posterior surface is in relation with the superior mesenteric vein and the beginning of the portal vein [Williams and Warwick, 1980].

The Body:

The body is somewhat prismoid in the shape, and has three surfaces anterior, posterior and inferior.

The anterior surface of the body: is concave, and is directed forwards and upwards; it is covered with peritoneum namely the anterior of the two ascending layers of the

greater omentum, and is separated from the stomach by the omental bursa.

The posterior surface of the body: 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; the left suprarenal gland and the left kidney and its vessels; particularly the left renal vein. It is intimately related to the splenic vein; which courses from left to right and separates it from the structures mentioned. The left kidney is also separated from the pancreas by the perirenal fascia and fat.

The inferior surface of the body: is narrow on the right but broader on the left and is covered with peritoneum derived from the lower layer of the transverse mesocolon; it lies upon the duodenojejunal flexure and on some coils of the jejunum; its left extremity rests on the left colic flexure.

The superior border of the body: is blunt and flat to the right; narrow and sharp to the left, near the tail. A process, termed the omental tuberosity, usually projects from the right end of the superior border above the level of the lesser curvature of the stomach, and is in contact with the posterior surface of the lesser omentum. It is in relation above with the coeliac artery. From which the

common hepatic artery courses to the right just above the gland, while the splenic artery runs towards the left following wavy course along this border.

The anterior border of the body: separates the anterior from the inferior surface and along this border the two layers of the transverse mesocolon diverge from each other: One passing upwards over the anterior surface, the other backwards over the inferior surface [Williams and Warwick, 1980].

The inferior border of the body: separates the posterior from the inferior surface. The superior mesenteric vessels emerge under its right extremity.

The Tail:

The tail is narrow, and usually lies in contact with the inferior part of the gastric surface of the spleen. It is contained within the two layers of the lienorenal ligament together with the splenic vessels, to which it is closely ralated.

The pancreatic Duct:

The pancreatic duct traverses the pancreas from left to right, lying nearer to its posterior than to its anterior surface. It begins by the junction of the small ducts of the lobules situated in the tail of the pancreas, and

running from left to right through the body, receives the ducts of the various labcules composing the gland, the latter joining the main duct almost at right angles [herring-bone pattern]. Considerably augmented in size, it reaches the neck of the pancreas, and turning downwards, backwards to the right, comes into relation with the bile duct, which lies to its right side. Together the two ducts pass obliquely into the wall of the descending part of the duodemun, and there unite to form a short dilated duct, named the hepatopancreatic ampulla [or ampulla of the bile duct]. The constricted distal end of this ampulla opens on the summit of the major duodenal papilla which is situated within this part of the duodenum at the junction of its medial and posterior walls, from 8 cm to 10 cm distal to the pylorus. As a rule, the two ducts do not unite until they approach very close to the opening on the major duodenal papilla. Sometimes the pancreatic and the bile duct open separately into the duodenum. Frequently, there is an additional duct, which receives the ducts from the lower part of the head, and is known as the accessory pancreatic duct. It runs upwards in front of the pancreatic duct to which it is connected by a communicating duct, and opens into the duodenum about 2 cm. above and slightly ventral to the major duodenal papilla on a small rounded minor duodenal papilla. The terminal part of the accessory duct may fail to expand and the secretion from the lower part of the head of the pancreas is then diverted along the communicating

duct into the main pancreatic duct [Williams and Warwick, 1980].

Vessels and Nerves:

The blood supply of the pancreas is derived chiefly from the splenic artery, which supplies the neck, body and tail. One large branch is named the arteria pancreatica magna. The head is supplied by the superior and the inferior pancreatic duodenal arteries [Last, 1984].

Venous return is by numerous small veins into the splenic vein and, in the case of the head, by the superior pancreatic duodenal vein into the portal vein and by the inferior pancreaticoduodenal vein into the superior mesenteric vein.

The lymph drainage of the pancreas follows the course of the arteries. To the left of the neck of the pancreas drains into the retropancreatic nodes. The head drains from its upper part into the coeliac group and from its lower part and uncinate process into the superior mesenteric group of pancreatic lymph nodes [Last, 1984].

The nerves of the pancreas, derived from the vagus and splanchnic nerves, reach it through the splenic plexus. The pancreatic islands [of Langerhans] receive particularly rich