PARTIAL SPLENECTOMY

AN ESSAY

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GENERAL SURGERY

BY

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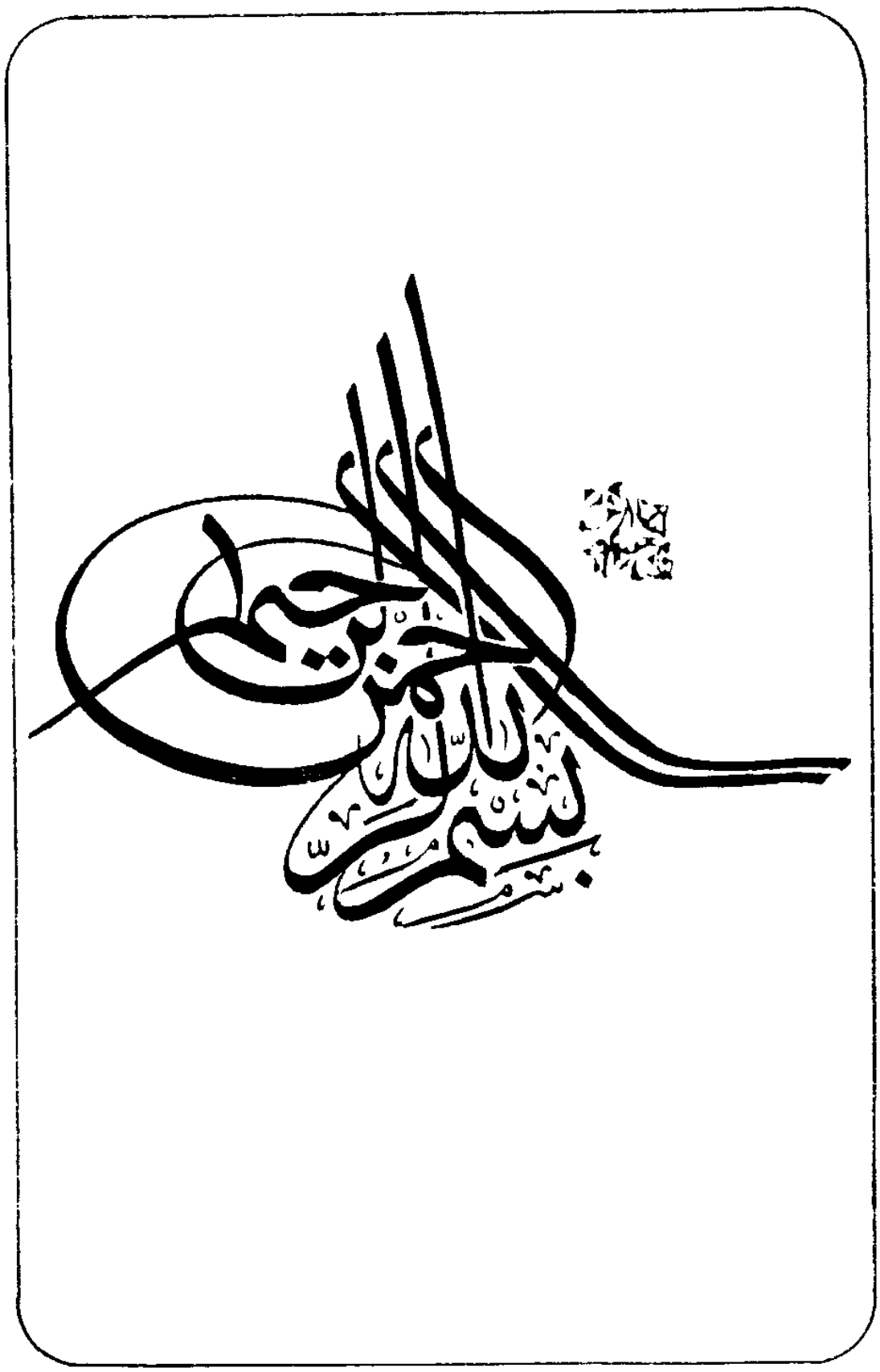

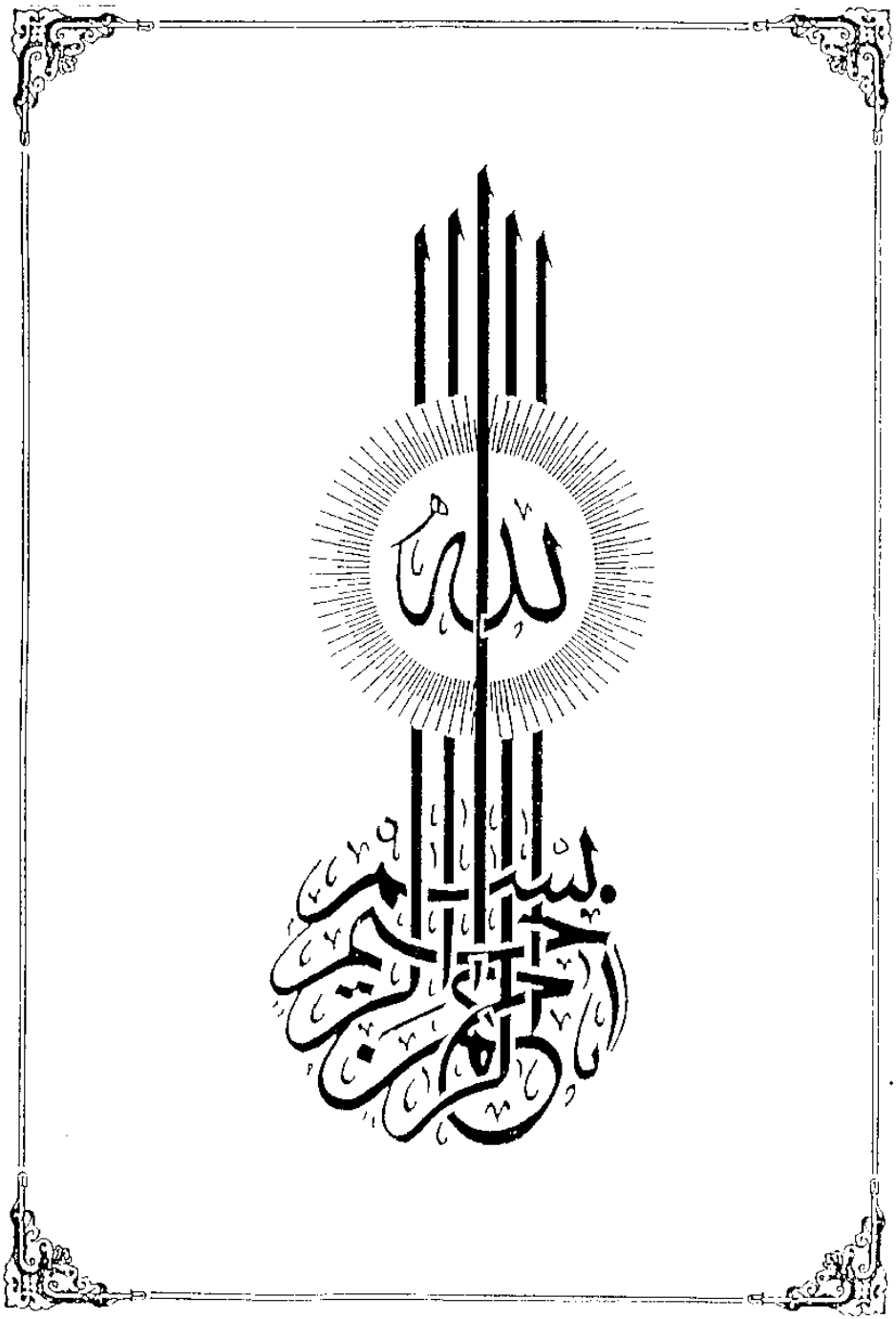

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C O N T E N T S

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CHAPTER I

ANATOMY OF THE SPLEEN

* DEVELOPEMENTAL ANATOMYOF THE SPLEEN
* RREGIONAL ANATOMY OF THE SPLEEN
* HISTOLOGY OF THE SPLEEN

DEVELOPEMENTAL ANATOMYOF THE SPLEEN

The spleen appears early about the sixth weak of the intrauterine life as a localized thickening of the coelomic epithelium of the dorsal mesogastrium near its cranial end, and the proliferating cells invade the underlying mesenchyme which becomes condensed and vascularized.

The process occurs simultaneously in the several adjoining areas which soon fuse with each other to form a lobulated spleen, derived in part from the mesenchyme of the dorsal mesogestrium and in part from the coelomic epithelium.

As the organ enlarges, it projects to the left. So that its surfaces are covered by the peritoneum of the mesogastrium on its left aspect, thus forming a boundary of the greater sac.

When fusion occurs between the dorsal wall of the lesser sac and the dorsal parieta. peritoneum, the process does not extend so far to the left as the spleen, which remains connected to the dorsal abdominal wall by a short lienorenal ligament, while its primitive connexion with the stomach persists as the gastrosplenic ligament.

The earlier lobulated character of the spleen disappears, but is indicated by the presence of notches on its upper border in the spleen of the adults.

SURFACE ANATOMY OF THE SPLEEN

The spleen is situated in the left hypochondrium, but its posterior edge extends into the epigastrium, where it lies between the fundus of the stomach and the diaphragm.

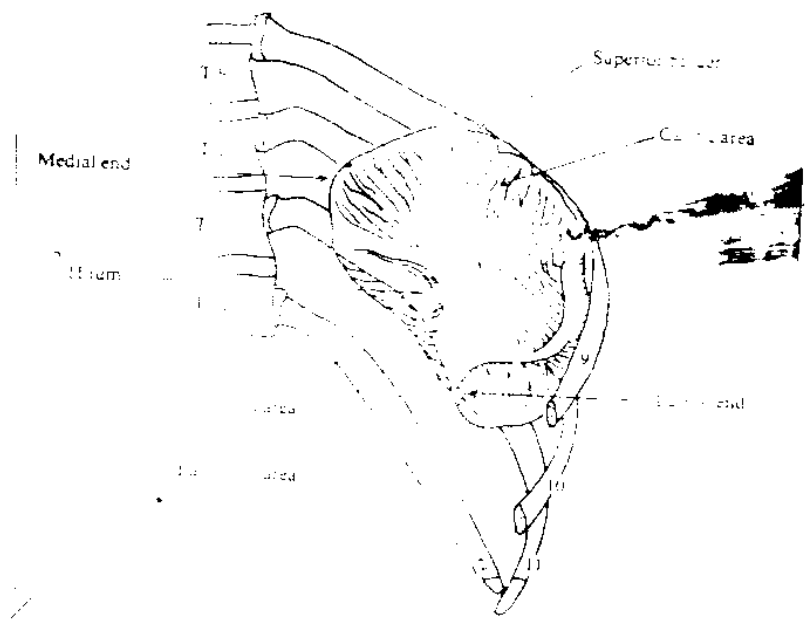
- Its long axis lies in the line of the tenth rib.

-Its posterior extremity being about 3.5 to 4 cm from the mid-dorsal line opposite the spine of the tenth thoracic vertelera.

-Its anterior extremity reaches as far as the mid-axillary line.

-It extends vertically from the ninth to the eleventh rib.

- Normally, the splleen is not palpable.



REGIONAL ANATOMY OF THE SPLEEN

The odd numbers 1, 3, 5, 7, 9, 11 summarize certain statistical features of the spleen.

It measures 1x3x5 inches, weighs 7 oz [average of 150gm, ranges between 80-300 gm], and lies between 9and 11 ribs.

The shape of the spleen varies according to the degree of distension of the stomach and colon.

The spleen has two ends, two borders, and presents also two surfaces:

* The medial end is tapering, and directed upwards, backwards and medially.
* The lateral end is broad, and directed downwards, forwards and laterally. It frequently takes the form of a margine.
* The superior border is oblique in position, being directed upwards an forwards. This border is sharp, and marked by one or more notches near the lateral end. It is slightly convex upwards and forms a projection which is called the angle of the spleen at its lateral end.
* The inferior border is smooth, more rounded than the superior one, and it is also thiker.

* The diaphragmatic surface is convex, smooth, and faces upwards, backwards and to the left. It is related to the abdominal surface of the diaphragm which separates it from the lowest parts of the left lung and pleura and the 9, 10, 11 ribs of the left side.

The costodiaphragmatic recess of the pleura extends down as far as the inferior border of the spleen.

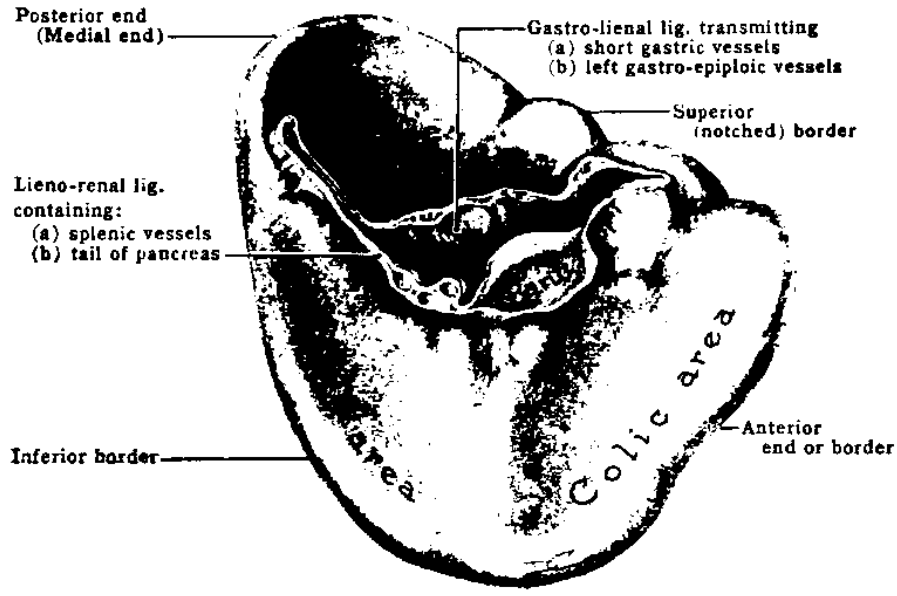
* The visceral surface i is directed towards the abdominal cavity. It carries four impressions:

a) The gastric impression. which is large and convex. It is related to the upper and left part of the fundus of the stomach. It is separated from the posterior wall of the stomach by a recess of the greater sac. The lower part of this impression presents the hilum of the spleen, which gives passage for the splenic vessles and nerves. The gastric impression lies below the superior border and separated from the renal impression by an intermediate margin.

b) The renal impression is slightly concave and lying close to the inferior border. It is related to the upper and lateral part of the anterior surface of the left kidney, and sometimes to the upper pole of the left suprarenal gland.

c) The colic impression is flattened, and lying close to the lateral end. It is related to the left colic (Splenic) flexure and the phrenicocolic ligament.

d) The pancreatic impression when present is placed between the colic impression and the lateral part of the hilum. It is related to the tail of the pancreas in the lieonorenal ligament.



For orientation, observe:

1. A "circumferential border" comprising the inferior, superior, and anterior borders, and separating the visceral surface from the diaphragmatic surface.

2. The notches characteristic of the superior border.

3. The left limit of lesser sac at the hilus of the spleen, between the lieno-renal and gastrolienal ligs.

4. The spleen taking the impressions of the structures in contact with it.

The stomach is excised. The peritoneum of the omental bursa, or lesser sac, covering the stomach bed is largely removed; so is the peritoneum of the greater sac covering the lower part of the kidney and pancreas. The pancreas is unusually short; the adhesions binding the spleen to Diaphragm are pathological but not unusual.

* Peritoneal relations of the spleen:

It is completely covered by the peritoneum of the greater sac. It forms the left lateral extremity of the lesser sac.

The spleen hangs in the abdomen by two ligaments:

1. The Gastrosplenic ligament which passes from the upeer border of the hilum to the fundus and greater curvature of the stomach. It carries the short gastric and left gastroepiploic vessles.

2. The lienorenal ligament which passes from the lower border of the hilus to the peritoneum covering the anterior surface of the left kidney. It carries the tail of the pancreas, and the splenic vessles.

The phrenicocolic ligament also supports the spleen. It extends from the left colic flexure to the diaphragm.

* Blood supply of the spleen

The splenic artery :

It arises from the ceeliac trunk, passes behind the stomach and omental bursa, along the upper border of the pancreas and following a tourtuous course.

It crosses the left supra renal gland and left kidney, and enters the lienorenal ligament to the hilum, where it branches, into the following:

a) **Pancreatic branches** supplying the neck, body and tail of the pancreas during its course above it.

b) The short gastric arteries which are 5-7 in number arising from the end of the artery and its terminal divisions, or from the left gastroepiploic artery. They pass in the gastrosplenic ligament to reach the fundus of the stomach, where they anastomose with the branches of the left gastric and left gastroepipicic arteries.

c) The left gastroepiploic artery which is the largest branch arising near the hilus. It sends several branches in the gastrosplenic ligament to the upper third of the greater curvature, and after giving an omental branch, it joins the right gastroepiploic artery.

d) The terminal splenic branches which are five or six branches that enter the spleen through its hilum.