The peritoneum

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General features

The peritoneum is a thin serous membrane that line the walls of the abdominal and pelvic cavities and cover the organs within these cavities

Parietal peritoneum

— lines the walls of the abdominal and pelvic cavities

Visceral peritoneum

— covers the organs

Peritoneal cavity

— the potential space between the parietal and visceral layer of peritoneum, in the male, is a closed sac, but in the female, there is a communication with the exterior through the uterine tubes, the uterus, and the vagina
Function

Secretes a lubricating serous fluid that continuously moistens the associated organs

Absorb

Support viscera
The relationship between viscera and peritoneum

**Intraperitoneal viscera**

— viscera completely surrounded by peritoneum, example, stomach, superior part of duodenum, jejunum, ileum, cecum, vermiform appendix, transverse and sigmoid colons, spleen and ovary

**Interperitoneal viscera**

— most part of viscera surrounded by peritoneum, example, liver, gallbladder, ascending and descending colon, upper part of rectum, urinary bladder and uterus

**Retroperitoneal viscera**

— some organs lie on the posterior abdominal wall and are covered by peritoneum on their anterior surfaces only, example, kidney, suprarenal gland, pancreas, descending and horizontal parts of duodenum, middle and lower parts of rectum, and ureter
Interperitoneal viscera
Structures which are formed by peritoneum

**Omentum** — two-layered fold of peritoneum that extends from stomach to adjacent organs
Lessor omentum

- Two-layered fold of peritoneum which extends from porta hepatis to lesser curvature of stomach and superior part of duodenum

Hepatogastric ligament
- Extends from porta hepatis to lesser curvature of stomach

Hepatoduodenal ligament
- Extends from porta hepatis to superior part of duodenum
- Contains common bile duct, proper hepatic a. and hepatic portal v.
Omental foramen

Behind the right border of hepatoduodenal ligament

Superior — caudate lobe of liver

Inferior — superior part of duodenum

Anterior — hepatoduodenal ligament

Posterior — peritoneum covering the inferior vena cava
Greater omentum

- four-layered fold of peritoneum, the anterior two layers descend from the greater curvature of stomach and superior part of duodenum and hangs down like an apron in front of coils of small intestine, and then turns upward and attaches to the transverse colon. If an infection occurs in the intestine, plasma cells formed in the lymph nodes combat the infection and help prevent it from spreading to the peritoneum.
Omental bursa

**Position** — situated behind the lesser omentum and stomach

**Walls**

**Superior** — peritoneum which covers the caudate lobe of liver and diaphragm

**Anterior** — formed by lesser omentum, peritoneum of posterior wall of stomach, and anterior two layers of greater omentum

**Inferior** — conjunctive area of anterior and posterior two layers of greater omentum

**Posterior** — formed by posterior two layers of greater omentum, transverse colon and transverse mesocolon, peritoneum covering pancreas, left kidney and suprarenal gland
Left

— formed by the spleen, gastroplenic ligament and splenorenal ligament

Right

— formed by omental foramen

The Omental bursa (lesser sac) communicates with the greater sac through the omental foramen.
Mesenteries or mesocolons — two-layered fold of peritoneum that attach part of the intestines to the posterior abdominal wall
Mesentery

— suspends the small intestine from the posterior abdominal wall

Broad and a fan-shaped

Consists of two peritoneal layers

Intestinal border—folded, 7 m long

Radix of mesentery

○ 15 cm long

○ Directed obliquely from left side of L2 to in front of right sacroiliac joint
Mesoappendix

Triangular mesentery—extends from terminal part of ileum to appendix

Appendicular artery runs in free margin of the mesoappendix
Transverse mesocolon — a double fold of peritoneum which connects the transverse colon to the posterior abdominal wall

Sigmoid mesocolon — inverted V-shaped, with apex located in front of left ureter and division of common iliac artery
Ligaments

— two-layered folds of peritoneum that attached the lesser mobile solid visera to the abdominal wall

Ligaments of liver

Falciform ligament of liver

- Consists of double peritoneal layer
- Extends from anterior abdominal wall (umbilicus) to liver
- Free border of ligament site of ligamentum teres
Coronary ligament — the area between upper and lower parts of the coronary ligament is the bare area of live, this area is devoid of peritoneum and lies in contract with the diaphragm

Left and right triangular ligaments
— formed by right extremity of coronary ligament and left leaf of falciform ligament, respectively
Hepatogastric ligament
Hepatoduodenal ligament
Ligamentum teres hepatis
Ligaments of spleen

Gastroplenic ligament
— a double layer of peritoneum that connects the fundus of stomach to hilum of spleen. In this double layer of peritoneum are the short gastric and left gastroepiploic vessels

Splenorenal ligament
— extends between the hilum of spleen and anterior aspect of left kidney. The splenic vessels lies within this ligament, as well as the tail of pancreas

Phrenicosplenic ligament

Splencolic ligament
Ligaments of stomach

- Hepatogastric ligament
- Gastroplenic ligament
- Gastrophrenic ligament
- Gastrocolic ligament
- Gastropancreatic ligament
Folds and recesses of posterior abdominal wall

Superior duodenal fold and recess
Inferior duodenal fold and recess
Intersigmoid recess — formed by the inverted V attachment of sigmoid mesocolon
Retrocecal recess  — in which the appendix frequently lies

Hepatorenal recess  — lies between the right lobe of liver, right kidney, and right colic flexure, and is the lowest parts of the peritoneal cavity when the subject is supine
Folds and fossas of anterior abdominal wall

**Medial umbilical fold**
- contain the remnant of urachus (median umbilical ligaments)

**Medial umbilical fold**
- contains remnants of the umbilical arteries (medial umbilical ligaments)

**Lateral umbilical fold**
- contains the inferior epigastric vessels

**Supravesical fossa**

**Medial inguinal fossa**

**Lateral inguinal fossa**
Pouches

In male — **rectovesical pouch**

In female

- **Rectouterine pouch** — between rectum and uterus
- **Vesicouterine pouch** — between bladder and uterus
Peritoneal subdivisions

The transverse colon and transverse mesocolon divides the greater sac into supracoelic and infracoelic compartments.

Supracoelic compartments

(subphrenic space) — lies between diaphragm and transverse colon and transverse mesocolon

Suprahepatic recess

lies between the diaphragm and liver — the falciform ligament divides it into right and left suprahepatic recesses
Left suprahepatic recesses
- left anterior suprahepatic spaces
- left posterior suprahepatic spaces

Right suprahepatic recesses
- right anterior suprahepatic spaces
- right posterior suprahepatic spaces
- bare area of live (extraperitoneal space)
Infrahepatic recess

lies between the live and transverse colon and transverse mesocolon — the ligamentum teres hepatic divides it into right and left infrahepatic recesses

Right infrahepatic recesses
(hepatorenal recess)

Left infrahepatic recesses
  - left anterior infrahepatic space
  - left posterior infrahepatic space
**Infracolic compartments** — lies below the transverse colon and transverse mesocolon

**Right paracolic sulcus** (gutter) — lies lateral to the ascending colon. It communicates with the hepatorenal recess and the pelvic cavity. It provides a route for the spread of infection between the pelvic and the upper abdominal region.

**Left paracolic sulcus** (gutter) — lies lateral to the descending colon. It is separated from the area around the spleen by the phrenicocolic ligament, a fold of peritoneum that passes from the colic flexure to the diaphragm.
**Right mesenteric sinus**  — triangular space, lies between root of mesentery, ascending colon, right 2/3 of transverse colon and transverse mesocolon

**Left mesenteric sinus**  — lies between root of mesentery, descending colon, right 1/3 of transverse colon and transverse mesocolon, its widens below where it is continuous with the cavity of the pelvis
Thank You

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