UNIT 25. DISSECTION: PERITONEAL CAVITY, STOMACH, LIVER, PANCREAS

STRUCTURES TO IDENTIFY:
Liver
   Falciform ligament
   Triangular ligaments
Stomach
   Greater curvature
   Lesser curvature
   Fundus
   Body
   Pylorus
Greater omentum
Lesser omentum
Mesentery proper
Spleen
Small intestines
   Duodenum
   Jejunum
   Ileum
Large intestines
   Mesoappendix
   Ascending colon
   Transverse mesocolon
   Descending colon
   Sigmoid mesocolon
   Haustra
   Epiploic appendages
   Taeniae coli
Celiac artery
   Common hepatic artery
   Splenic artery
   Left gastric artery
   Right gastric artery
   Left gastroepiploic artery
   Right gastroepiploic artery
Common hepatic artery
   Proper hepatic artery
   Gastroduodenal artery
   Portal triad
   Common bile duct
   Portal vein
   Right and left hepatic arteries
   Superior mesenteric artery
   Ileocolic artery
   Right colic artery
   Middle colic artery
   Intestinal branches
   Inferior mesenteric artery
   Left colic artery
   Sigmoid branches
   Superior rectal artery
   Portal vein
   Superior mesenteric vein
   Inferior mesenteric vein
   Hepatic vein in liver
   Gall bladder
   Cystic duct
   Cystic artery
   Common hepatic duct
   Right and left hepatic ducts
   Common bile duct
   Pancreas (all parts)
   Pancreatic duct
   Splenic artery
   Duodenum (all parts)
   Major duodenal papilla
   Inferior vena cava

DISSECTION INSTRUCTIONS:

1. Without cutting any abdominal organs, make a vertical incision through the anterior body wall just to the left of the midline from the xiphoid process to the symphysis pubis. The four flaps of body wall thus formed should be folded back to expose the abdominal contents. Identify the ligaments and mesenteries of the abdominal cavity (N. plates 269 – 274, 348; G. plates 2.1, 2.17 – 2.21).
2. Identify the stomach and its various parts (N. Plate 275; G. 2.23). In the lesser omentum, locate the blood vessels which parallel the lesser curvature of the stomach (N. plates 300, 305, 309; G. plates 2.28B, 2.23, 2.34). Clean the right and left gastroepiploic vessels in the greater omentum near the greater curvature of the stomach (N. plates 300, 305, 309; G. plates 2.28B, 2.23). Make a longitudinal incision through the anterior surface of the stomach and remove any contents that may be there. Identify the parts of the stomach and look at the mucosal surface (N. plate 276; G. plate 228C).

3. Move the small intestines as far to the left as possible, exposing the right side of the mesentery proper. Remove the entire layer of peritoneum covering this surface and expose the superior mesenteric vessels (N. plates 306, 310; G. plate 2.35, 2.36) and their branches. In cleaning the vessels, the tough strands of tissue are the autonomic nerve plexus which supplies the intestine and the delicate strands of tissue are the lymphatic vessels carrying lymph from the intestine. In cleaning the vessels, notice that they are surrounded by fat, but as they approach the jejunum, the fat disappears leaving “windows” in the mesentery. Identify the arcades and notice, in general the branches supplying the jejunum have fewer series of arcades than do the branches supplying the ileum. Identify the straight arteries (end arteries) they are very important to remember in surgery of the intestines (N. plate 306; G. plate 2.39). Open the jejunum about two feet from the duodenojejunal junction and open the ileum at an area of distention, if there is one, about two or three feet from the ileocecal junction (N. plates 281, 282; G. plate 2.38) Observe their mucosal lining (N. plate 280; G. plate 2.35). Check to see if the appendix is present (N. 282, 283; G. plate 2.38, 2.39).

4. Inspect the large intestines (N. plates 268, 284; G. plate 2.39, 2.41, 2.44). Identify haustra, taeniae coli and epiploic appendages. Clean the branches of the superior mesenteric artery which supply the large intestine (N. plate 306, 307; G. plate 2.39). Now move the small intestine to the right side of the body and clean the inferior mesenteric artery (N. plate 307; G. plate 2.41). Open the cecum and clean the ileocecal valve (N. plate 265 and G. plate 2.38). Compare the mucosal surface of the large intestine to that of the small intestine and stomach (N. plates 276, 280, 284; G. plates 2.35A, B, C, 2.36A, 2.38C).

5. Examine the superior and inferior mesenteric veins that drain the small and large intestines (N. plates 310 – 312; G. plates 2.60). These veins will form the portal vein along with the splenic vein.

6. Clean the portal vein, hepatic artery and common bile duct from the upper edge of the pancreas to the hilus of the liver (N. plates 288, 294, 300, 301, 305, 309, 311; G. plates 2.51 – 2.53). After reviewing their branches and tributaries, cut the proper hepatic artery distal to the right gastric artery, common bile duct below the junction of the cystic and common hepatic ducts and the portal vein at its mid point. Cut the falciform, coronary and triangular ligaments. Cut the lesser omentum between the liver and the stomach. Carefully free the liver from all its attachments except to the inferior vena cava. Locate the hepatic veins entering the inferior vena cava and cut them. The liver should now be
free to be lifted out of the abdomen. Study the ligaments and the surface relationships of
the liver (N. plate 287; G. plates 2.45, 2.46). Clean the triad of structures entering the
liver at its hilus (N. plates 287, 288, 294; G. plates 2.46, 2.51 – 2.53). The left and right
branches of the portal vein, hepatic artery and hepatic ducts should be visible outside the
liver. Note the location of the gallbladder and study its form (N. plates 287, 288, 294; G.
plates 2.46, 2.52 - 2.54). The cystic artery usually arises from the right hepatic artery (N.
plates 294, 300, 301; G. plates 2.52, 2.53). Open the gall bladder and remove its
contents; gallstones are common. Open the cystic duct and note the mucosal fold which
serves as a spiral valve.

7. Follow the splenic artery from the celiac trunk to the spleen without breaking any of its
branches to the pancreas. Identify the spleen (N. plates 299 – 301, 305; G. plates 2.24 –
2.26, 2.29, 2.33, 2.34).

8. Free the ascending and descending colons from the body wall and free the transverse
colon from the stomach. Move these structures to the lower abdomen so the duodenum
and pancreas can be clearly seen (N. plates 278, 279, 298, 301, 306, 309 – 311; G. plates
2.29, 2.33, 2.34, 2.54). Find the pyloric sphincter and verify that the first part of the
duodenum is not retroperitoneal. Follow the course of the duodenum in its
retroperitoneal position. Now identify the other three parts of the duodenum. Cut through
the anterior wall of the pyloric sphincter and on into the first part of the duodenum (N.
plate 279; G. plate 2.28). Remove any contents. Notice that the pyloric sphincter bulges
into the lumen of the duodenum. The first part of the duodenum is sometimes called the
duodenal bulb and is usually smooth (without circular folds). Open the second part of the
duodenum through its anterior wall. (Note the circular folds) (N. plates 279, 294; G.
plates 2.33, 2.54). About half way down the second part of the duodenum identify the
major duodenal papilla.

9. At this time, clean the portal vein behind the pancreas and find its origin from the
superior mesenteric and splenic veins. Carefully determine which vessel receives the
inferior mesenteric vein (N. plates 309 - 312; G. plates 2.33, 2.53, 2.60).

10. Study the pancreas (N. plates 278, 279, 298, 301, 304; G. plates 2.33, 2.34, 2.54).

11. Locate the gastroduodenal artery arising from the common hepatic artery (N. plates 300,
301, 304 – 306; G. plates 2.29, 2.33A, B, 2.34). Carefully clean it and identify its
superior pancreaticoduodenal arteries. Now identify the inferior pancreaticoduodenal
artery usually a branch of the superior mesenteric artery or the first jejunal artery.

12. Along the superior border of the pancreas (N. plates 301, 305; G. plates 2.29, 2.33, 2.34),
identify the arteries from the splenic artery to the pancreas.

13. Carefully dissect into the anterior surface of the body of the pancreas and locate the main
pancreatic duct (N. plates 288, 294, 295; G. plates 2.33A, 2.54).