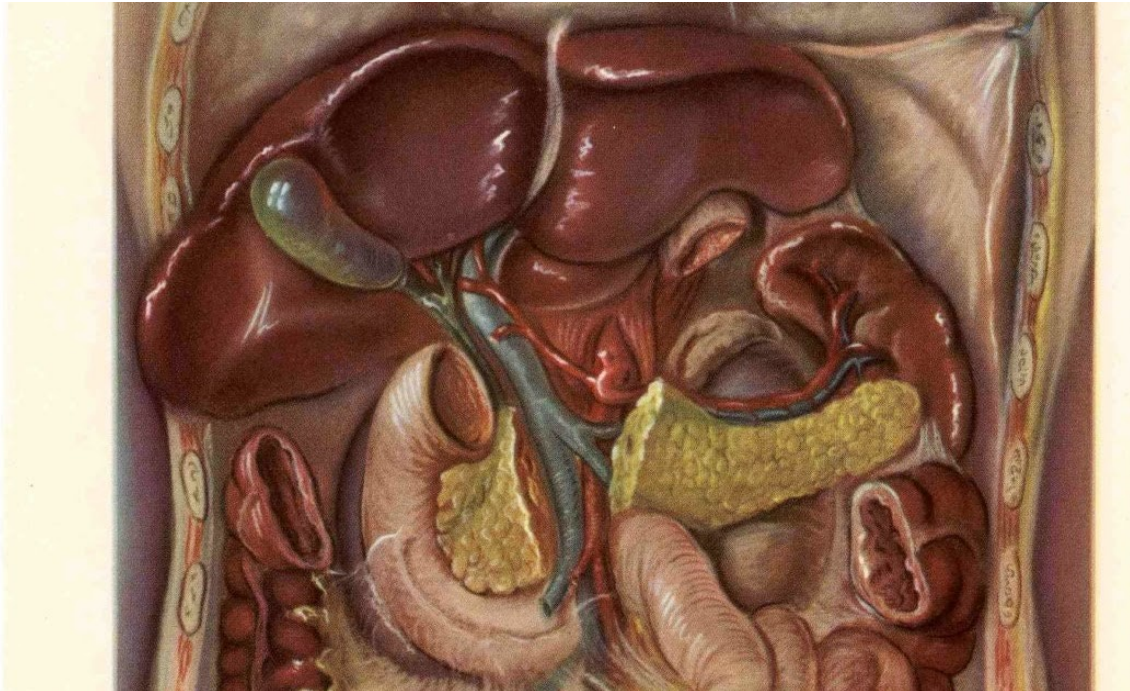


ANATOMY OF ABDOMIN AND GASTROINTESTINAL TRACT



Duration of Module: Nine Weeks

Themes

| |
|--|
| 1) Painful swallowing—-----1 week |
| 2) Abdominal pain—-----2 weeks |
| 3) Jaundice—-----1 week |
| 4) Diarrhea and Constipation—1 week |
| 5) Bleeding Per Rectum—-----1 week |
| 6) Hyperglycemia-(Carbohydrate metabolism)- 1 week |
| 7) Obesity (Lipid metabolism)- 4 days |
| 8) Wasting (Protein metabolism)- 8 days |

General learning outcomes

At the end of this 9 weeks` module, the 2nd year students will be able to:

- 1) Describe the anatomy of oral cavity and salivary glands with respect to GI functions
- 2) Describe the anatomy of Anterior and posterior abdominal wall. And importance of clinical conditions related to it.
- 3) Describe the structure and development of esophagus, stomach, small intestine and large intestine
- 4) Describe the anatomy of peritoneum and mesentery
- 5) Describe the structure, development of hepatobiliary system and pancreas

Theme1:Painful swallowing

| Subject | Topic | Learning objectives | Teaching Format | Assessment |
|---------------|-----------------|--|-----------------|--------------|
| Gross anatomy | Oral cavity | Describe the musculature of tongue Describe the nerve supply of tongue | LGF Lecture | MCQs SEQs |
| | Salivary glands | Describe the gross anatomy of parotid, submandibular and sublingual salivary gland | SGD | OSPE |
| | Esophagus | Describe the extent, course, relations and gross structure of esophagus. | | |

Bacha Khan Medical College Mardan

| | | | | |
|-------------------|---|---|-----------------------|----------------------|
| Embryology | Development of tongue | Describe the developmental events of tongue Enlist various anomalies of tongue development | Lecture | MCQs SEQs OSPE |
| | Development of esophagus | Describe the development of Esophagus | | |
| | Development of salivary glands | Describe the development of salivary glands | | |
| Histology | Oral cavity | Describe the microscopic structure of lips Describe the histological features of tooth in longitudinal and transverse section Explain the histology of tongue. Differentiate between the microscopic picture of anterior 2/3rds and posterior 1/3rds of the tongue | Lecture LGF SGD | MCQs SEQs OSPE |
| | Esophagus | Identify the epithelium of esophagus and esophageal glands in mucosa | SGF | OSPE |
| | | Differentiate between musculature in different parts of the esophagus | Lecture | MCQ |
| | Gastrointestinal blood flow— Splanchnic circulation | Describe anatomy of the gastrointestinal blood supply | | |
| | Anterior abdominal wall | Describe the origin, insertion, nerve supply and actions of anterolateral abdominal wall muscles | | |
| | | Describe the formation of rectus sheath | | |
| | | Describe the contents of rectus sheath | | |
| | Abdominal Examination | Describe the surface anatomy of anterior abdominal wall Describe the structures related to transpyloric plane | | |

Bacha Khan Medical College Mardan

| | | | | |
|------------------|----------------|---|--|--|
| | | Enlist various types of abdominal hernias | | |
| | Inguinal canal | Describe the boundaries of inguinal canal | | |
| | | Enlist the contents of inguinal canal in males and females | | |
| | | Differentiate between direct and indirect inguinal hernia | | |
| | Peritoneum | Describe greater and lesser omentum | | |
| | | Describe the nerve supply of peritoneum | | |
| | | Describe the anatomy of lesser sac. | | |
| | | Describe the boundaries of epiploic foramen | | |
| | | Describe the various peritoneal pouches, recesses and ligaments | | |
| | Stomach | Describe the gross structure of stomach | | |
| | | Describe the blood supply and lymphatic drainage of stomach | | |
| | | Describe the anatomy of stomach bed | | |
| | Duodenum | Describe the gross structure and blood supply of duodenum | | |
| | | Write the relations of various parts of duodenum | | |
| | Pancreas | Describe the gross structure of pancreas and its ductal system | | |
| Histology | Stomach | Enumerate the different layers of the stomach wall | | |
| | | Write a note on gastric glands. | | |
| | | Differentiate between fundic and pyloric mucosa | | |
| | Duodenum | Discuss histological features of duodenum and describe duodenal glands. | | |
| | Pancreas | Describe the histology of pancreas | | |

Bacha Khan Medical College Mardan

| | | | | |
|----------------------|----------------------------------|--|--|--|
| | | Differentiate histologically between exocrine and endocrine portions of pancreas | | |
| Embryology | Development of foregut | Describe the development of stomach | | |
| | | Describe the development of duodenum | | |
| | | Enlist various developmental anomalies of stomach | | |
| | | Enlist various developmental anomalies of duodenum | | |
| | Pancreas | Describe the development of pancreas | | |
| | | Enlist various anomalies of pancreas | | |
| Gross Anatomy | Liver | Describe the borders and surfaces of liver | | |
| | | Describe the visceral surface of liver | | |
| | | Describe the peritoneal reflections and associated ligaments of liver | | |
| | | Describe the lobes and segments of liver | | |
| | | Describe the blood supply of liver | | |
| | | Describe the hepato renal pouch of morrison and its clinical significance | | |
| | Extra hepatic billiary apparatus | Describe the gross anatomy of gall bladder | | |
| | | Describe calot's triangle | | |
| | | Describe the gross anatomy of extra hepatic billiary tree | | |
| | Spleen | Describe the gross anatomy of spleen and blood supply of spleen | | |
| | Hepatic portal | Describe the formation and tributaries / branches | | |

Bacha Khan Medical College Mardan

| | | | | |
|-------------------|--------------------------------|--|--|--|
| | venous system | of hepatic portal venous system | | |
| | | Explain the clinical significance of hepatic portal system | | |
| Embryology | Development of distal fore gut | Describe the development of liver | | |
| | | Describe the development of gall bladder and biliary tree | | |
| | | Describe the developmental anomalies of liver and biliary tree | | |
| Histology | Liver | Discuss the histological features of liver | | |
| | | Describe liver parenchyma and general structural plan of the liver | | |
| | | Describe the histological features of the structures present in the portal triad | | |
| | Spleen | Discuss the histological features of spleen | | |
| | | Differentiate between red pulp and white pulp | | |
| | | Describe the pathogenesis, stages and clinical presentation of liver cirrhosis | | |

Theme4: Diarrhoea and Constipation

| | | | | |
|----------------------|-------------------|--|--|--|
| Gross Anatomy | Jejunum and ileum | Describe the gross features of jejunum and ileum | | |
| | | Tabulate differences in gross features and blood supply of jejunum and ileum | | |
| | Mesenteries | Describe the mesentery of small intestine | | |
| | Appendix | Describe the gross features, blood supply and mesentery of appendix | | |

Bacha Khan Medical College Mardan

| | | | | |
|-------------------|-----------------------|---|--|--|
| | | Describe the clinical correlates of appendix | | |
| | Abdominal aorta | Enumerate the branches of abdominal aorta. | | |
| | | Describe the course and distribution of celiac trunk | | |
| | | Describe the course and distribution of superior mesenteric artery | | |
| | | Describe the course and distribution of inferior mesenteric artery | | |
| | Inferior vena cava | Describe the origin, course, tributaries and relations of inferior vena cava | | |
| | Lymphatic drainage | Describe the origin, course and relations of Cisterna chili | | |
| | | Describe the lymphatic drainage of abdominal organs | | |
| Embryology | Development of midgut | Describe the formation and rotation of midgut loop | | |
| | | Describe the physiological herniation of midgut loop | | |
| | | Enlist the derivatives of mid gut loop | | |
| | | Describe the development of mesenteries | | |
| | | Describe the various anomalies of midgut development | | |
| Histology | Jejunum and ileum | Discuss histological features of jejunum and describe plica circulares. | | |
| | | Discuss histological features of ileum and describe Payers patches. | | |
| | | Discuss the various structural specializations meant for increasing the surface area of small | | |

Bacha Khan Medical College Mardan

| | | | | |
|--|----------|--|--|--|
| | | intestine (plica circulares, crypts of Lieberkühn, villi and microvilli) | | |
| | Appendix | Discuss histological features of appendix. | | |

Theme5: Bleeding Per Rectum

| | | | |
|----------------------|-------------------------|--|--|
| Gross Anatomy | Large intestine | Describe the gross features of cecum, ascending, transverse and descending and sigmoid colon | |
| | | Describe the mesentery of large intestine | |
| | | Describe the gross anatomy of rectum | |
| | | Describe the gross anatomy of anal canal | |
| | | Describe the blood supply of anal canal and its clinical correlates. | |
| | | Describe the boundaries and contents of Ischiorectal (anal) fossa | |
| Embryology | Development of hind gut | Describe the partitioning of cloaca | |
| | | Enlist the derivatives of hind gut | |
| | | Enlist the developmental anomalies of hindgut | |
| Histology | Colon | Discuss the histological features of colon | |
| | | Describe the characteristic features of intestinal glands | |
| | Rectum | Describe the histological features of Rectum | |

List of practical works

| Subject | Topic | S. No | Learning objectives |
|------------------|-------------------|-------|--|
| Histology | Lips and tongue | 358 | Identify the histological features of lips and tongue under the microscope |
| | Esophagus | 359 | Identify the histological features of Esophagus under the microscope |
| | Stomach | 360 | Identify the histological features of stomach under the microscope |
| | Duodenum | 361 | Identify the histological features of duodenum under the microscope |
| | Liver | 362 | Identify the histological features of liver under the microscope |
| | Gall bladder | 363 | Identify the histological features of gall bladder under the microscope |
| | Jejunum and Ilium | 364 | Identify the histological features of Jejunum and Ilium under the microscope |
| | Appendix | 365 | Identify the histological features of Appendix under the microscope |
| | Colon and Rectum | 366 | Identify the histological features of Colon and Rectum under the microscope |