

GI Course description: 6 credit hours

This course focuses on Gastro Intestinal system to understand structures, biochemical aspects, physiological functions, pathological disorders, microbial, parasitic and viral infections and pharmacological requirements for treatment of gastro-intestinal diseases. In addition, Clinical aspects of gastrointestinal diseases will be introduced to students.

Detailed description:

(1) Anatomy, Histology & Embryology 30 hrs + 12practicals

Anatomy:

- Anterior abdominal wall
- Rectus sheath – inguinal canal – spermatic cord
- Peritoneum
- Abdominal viscera (stomach, small intestine, large intestine, liver gall bladder, pancreas)
- Posterior abdominal wall
 - vesseles of posterior abdominal wall
 - nerves of posterior abdominal wall

Histology :

- the lip, teeth, sublingual , submandibular & parotid glands
- Dental Histology, vallate and filiform papilla of the tongue
- oesophagus, stomach, duodenum, jejunum, ileum & colon
- Pancreas- liver and galbladder

Embryology:

- The foregut – development of the esophagus, stomach, duodenum
 - development of the liver, gallbladder and biliary apparatus
 - development of the spleen
- The midgut – rotation of the midgut loop – fixation of the intestin
- The cecum and appendix
- The Hindgut – the cloaca – the anal canal

(2) Physiology 8hrs +2practicals

- Introduction of GI Physiology
 - Physiology of smooth muscle
 - Neural hormonal control of GI
 - Blood flow and GI activities

GI motility:

- Mastication and swallowing
- Gastric motor activities and control
- Small intestinal movements and control
- Defecation and control

GI secretions:

- Introduction to secretions

Salivary secretion, Mechanisms of secretion, Function, Control

Gastric secretion, Mechanisms, Function, Control
Intestinal secretions
Pancreatic secretion, Mechanisms, Function, Regulation
Liver and Galbladder: Bile secretion, Function, Control

Digestion and Absorption:

Intestinal specialization
Digestion and Absorption of Carbohydrates
Digestion and Absorption of Proteins
Digestion and Absorption of Lipids
Absorption of water, electrolytes, Ca⁺⁺, Fe⁺⁺
Absorption of Vitamins
Body Energetics, Dietary balance and Regulation of food intake

(3) Pathology 13hrs + 2practicals

ESOPHAGUS

Hiatal hernia
Achalasia
Lacerations
Other anatomic & motor disorders
Varices

Esophagitis

Types, mechanisms & appearances

Barrett's Esophagus

Carcinoma

Types, epidemiology, clinical
Morphology

Stomach

Acute Gastritis

Chronic Gastritis

Types (superficial atrophic, granulomatous...etc)
Gastric atrophy
Mechanisms, pathogenesis, morphology

Peptic Ulcer

Pathogenesis, epidemiology
Morphology, complications
Clinical

Tumors

Polyps, other benign
Malignant tumours
Carcinoma, types, morphology, clinical, outcome & risk factors
Lymphoma
Carcinoid
Other

LOWER GI TRACT DISEASES

Congenital Anomalies

- Meckels
- A tresia and stenosis
- Imperforate anus
- Hirschsprung disease
- Ischemic Bowel disease
- Angiodysplasia
- Hemorrhoids
- Diarrheal diseases
- Infection enterocolitis
- Idiopathic inflammatory bowel disease
 - Crhon's Disease
 - Ulcerative colitis
- Diverticulosis
- Tumors
- Benign (polyps)
 - Malignant

LIVER PATHOLOGY

Definitions

- Cirrhosis
- Hepatic encephalopathy
- Jaudice
- Cholestarios

Hepatitis

- Viral
- Antoimmune

Liver abscess

- Drug induced liver disease
- Alcoholic liver disease

- Hemochromatosis
- Antitrypsihdeficiency
- Rye's syndrome
- Biliary cirrhoses
- Cholargitins
- Congenital anomalies of the biliary tree
- Vascular disorders of the liver
- Liver transplantation
- Tumors of the liver

GALBLADDER DISEASE

- Gall stones
- Cholecystios
- Tumors and associated disease

Injury iatrogenic
Extrahepatic bile duct disorders
Cholelithiasis
Ascending cholangitis
Choledochal cyst

PANCREAS

Congenital anomalies
Cystic fibrosis
Pancreatitis
tumors

(4) Microbiology 14 hrs

Natural defense of the gastrointestinal tract

Normal flora
Immune responses

Viral infections of the intestinal Tract

Rotavirus
Adenoviruses
Caliciviruses
Astroviruses
Enteroviruses

Bacterial infections of the gastrointestinal tract:

Campylobacter
Vibriospecies
Diarrhia agent
Salmonell
Plesiomonas
 Food poisoning agent
Shigella
Yersinia
E. coli
Helicobater
Clostridium perfringer
cereus
Clostridium difficile
botulinum

Parasitic infections of the Gastrointestinal Tract

Protozoa:

Giardia lamblia
Cryptosporidium parvum
Entameba histolytica

Helminths:

Enterobius vermicularis
Trichuris trichiura
Ascaris lumbricoides

Hook worms
Strongyloides stercoralis
Tapeworms
Trematodes

Bacterial Infection of the liver

Leptospira spp
Coxiella burnettii
Brucella spp
Mycobacterium

Viral Infections of the liver

EBV, CMV, YF and others
Hepatitis A virus
Hepatitis E virus
Hepatitis B virus
Hepatitis D virus
Hepatitis E virus

Epidemiology

Pathogenesis
Clinical features
Diagnosis
Prevention and control

Parasitic Infections of the liver

Schistosomes
Hydatid disease
Fasciola hepatica

(5) Pharmacology 6 hrs

Drugs in peptic ulcer disease
Antidiarrheal, Laxatives, Antispasmodic drugs
Emetics, antiemetics
Drugs in G.I.T inflammatory conditions.

(6) Clinical aspect 2 hrs

SYMPTOMS AND SIGNS

Painful mouth
Dysphagia and Odynophagia
Regurgitation and Belching
Heartburn
Nausea and Vomiting
Abdominal pain
Dyspepsia
Anorexia and Weight loss
Flatulence
Abdominal distension-(bloating)
Altered bowel habits
Rectal bleeding-Tenesmus

Hiccups
Jaundice
Abdominal masses
Ascitis
Hernial orifices and Hernias

HISTORY TAKING AND EXAMINATION OF THE ABDOMEN AND G.I SYSTEM

Regions of the abdomen

General approach

Inspection: Hair, Skin, Umbilicus, Contour of the abdomen

Peristalsis, Pulsation's, Veins, Movements, and Hernias

Palpation:

Light palpation, Deep Palpation, Palpation of the liver, Dipping technique, Palpation of the spleen, Palpation of the kidneys.

Percussion:

The distended abdomen, the liver the spleen, Assessing for Ascitis. (Shifting dullness and Fluid Thrill)

Auscultation:

Bowel sounds, Arterial bruits, Venous Hum, Friction sounds, and Succession splash

Examination of the Hernial orifices and external genitalia

Ano-rectal examination:

Inspection of the anal area

Digital rectal examination

Proctoscopic examination