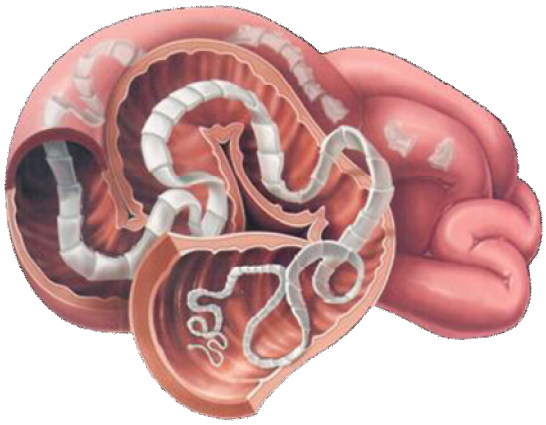
AJK Medical College, Muzaffarabad

STUDY GUIDE

Gastrointestinal Tract & Nutritional Diseases Module (GIT & ND-0206)

3rd Year




Pre-requisite modules: Foundation, Cell Injury, IHI, Legal Medicine, Genetics & Neoplasia Modules

Duration= 4 weeks
Starting on

DEPARTMENT OF MEDICAL EDUCATION

Module Team

1.	Planner	Prof. Dr. Muhammad Munir (Pathology)
2.	Coordinator	Prof. Dr. M. Arif (HOD, Pharmacology)
3.	Member	Brig. (Rtd.) Prof. Dr. Ahmed Khan (HOD, Community Medicine)
4.	Member	Dr. Ziyad Afzal Kayani (Surgery/DME)
5.	Member	Prof. Muhammad Humayun (Forensic Medicine)
6.	Member	Dr. Ali Arshad Abbasi (Medicine)
7.	Member	Dr. Naheem Ahmed (Paediatrics)
8.	Member	Dr. Naheed Akhter

Rationale

Gastrointestinal tract along with liver, gallbladder and pancreas are marvels of human body created by Allah subhanawata'lah. They represent superb meaningful structures helping us in digesting, assimilating and nourishing each and every cell. The system also helps us in enjoying, satisfying and gratifying variety of delicious food. The system has many components of innate acquired immune defenses. On the other hand the system components may be and the target of many congenital, genetic and acquired disorders. The system provides a beautiful integration of various basic and clinical disciplines. Through these horizontal, vertical and oblique integration and spirals not only one comprehends the utmost wisdom behind normal functioning of these organs as well as diseases, signs, symptoms afflicting them. This enables us to render the most appropriate assessment strategies, treatment and management of various diseases.

The core contents of this module are organized into 5 themes and clinical cases have been provided to achieve our learning objectives logically, coherently and lucidly. Timeline and learning strategies are complemented.

Organization of Module:

The module consists of 5 themes, and 2 PBLs; each based on a real life situation. Each theme has its explicit Learning Objectives (LOs). The module will employ different modes of instruction, briefly described below. Major emphasis will be on real life patient examination, discussion, laboratory and radiological test investigation and interpretation, case analysis, diagnosis, deductions and management; all by the students and guided by the faculty.

Each theme in this module is augmented with a clinical scenario. The clinical presentation of themes will give you a clue that how a patient presents in a real life situation and to draw a conclusion from the information given by the patient and signs elicited by your clinical examination. All this information is included in the respective clinical cases. Your daily activities would be divided into different slots. Please refer to time table for more details regarding organization of learning activities.

Teaching Strategies:

The content of this module will be delivered by a combination of different teaching strategies. These include small group discussions (SGD), large group interactive sessions (LGIS), history taking, patient examination, laboratory investigations and tests interpretation, clinicopathological conferences (CPCs), discussions and journal club. Entire curriculum will be delivered by clinical case scenarios each covering a theme. Read the cases and the objectives of the theme which you are supposed to encounter next day, understand and explain the case to yourself and study the relevant information. The students will present clinical cases based on scenarios themselves and display the relevant radiological and pathological features. Following learning/teaching strategies will be used in GIT Module:

Small Group Discussion (SGD):

Main bulk of the course content will be delivered in small group sessions. Each theme has an associated case. The case will be centered around which learning will take place. Every group will have a facilitator assigned to it. The facilitator will be there to keep you on track, giving you maximum liberty to discuss and achieve the objectives as a group. Small groups will be followed by a wrap up session to standardize learning. Rest of the information will be in the schedule/ time table.

Large Group Interactive Sessions (LGIS):

LGIS will be employed at times to augment small groups. By and large they will be used to pass on general concepts regarding the theme. Large group instruction will be employed at times sparingly. Attend large group sessions with the following focus:

- Identify important points.
- Ask questions on concepts not well understood in the text books.
- Measure your learning comprehension

Journal Club:

The students will be required to present cases related to the themes in groups. They will collect the information about the different facets of patient's disease and present to the whole class with the help of appropriate histopathological, radiological and clinical slides. It will be followed by question, answer and discussion.

Practical Skills:

Selection of tests, collection of the specimen, examination and interpretation of specimens/test reports, microscopic slides, culture plates/media examination and radiological images.

Self-Directed Learning (SDL):

A task will be given in SDL regarding the theme to be discussed before PBL. This will help to prepare you a bit before the theme is under discussion. A few SDLs have been added in between to create an environment for you to

search literature as well as to deduce and synthesize information from different sources to meet the learning objectives.

Assessment:

In this module, you will have formative and summative assessment. This will give you an idea about the format of the examination that you will go through at the end of the year. This will be followed by feedback on your performance in the exam. Marks obtained in the module examination will contribute 30% (internal assessment) towards end of year Professional University Examination. **There is no re-sit exam for module written assessment and block IPE** under any circumstances. If you miss them, your internal assessment will be recorded as zero. No excuse of any kind is permissible for absence in module or IPE assessment.

Table of Specifications (TOS)

1	Pain abdomen	30%
2	Diarrhea	35%
3	GI Bleeding and Constipation	10%
4	Jaundice	10%
5	Malnourishment	15%

Learning Objectives

Theme 1: Pain abdomen

1. Describe medical causes of acute abdomen.
2. Describe surgical causes of acute abdomen and their clinical presentation.
3. Enlist causes of Intestinal obstruction. Differentiate between acute and chronic obstruction
4. Illustrate sialadenitis and give its complications
5. Enlist and classify salivary gland tumors, draw microscopy picture of pleomorphic adenoma, its clinical presentation and prognosis
6. Enlist types of gastritis in terms of its etiology, microscopic picture and its complications.
7. Describe Pathogenesis of peptic ulcer disease
8. H. pylori and its role in peptic ulcer
9. Classify drugs used for the treatment of Peptic ulcer. Describe P Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of different drugs used for the treatment of Peptic ulcer
10. Enlist various storage diseases and their manifestations
11. Enlist causes of cirrhosis, describe its pathogenesis, manifestations and complications
12. Define and describe hemochromatosis in terms of etiology, pathogenesis and complications
13. Define and describe Wilson's disease in terms of etiology, pathogenesis and complications
14. Describe postmortem findings of HNO3 poisoning and Give an account of medico legal implication of vitriolage.
15. Perform gastric lavage & enumerate the cases where it is contraindicated.
16. Describe the mode of action, diagnosis, management of organic acids poisoning, postmortem findings and medico legal importance of organic acid poisoning (oxalic acid, formic acid,).
17. Describe the mode of action, diagnosis, management, postmortem findings and medico legal importance of inorganic nonmetallics (Sulphur and phosphorus poisoning).
18. Describe the Mode of action, diagnosis, management of inorganic Metallics, postmortem findings and medicolegal importance of Arsenic, Lead, Mercury,
19. Describe the Mode of action, diagnosis, medicolegal importance, management and postmortem findings of poisoning by Abrus, Caster oil and Corrton Organic Irritants (Vegetable origin), Nux vomica.
20. Describe the role of a medical officer in handling a suspected case of poisioning
21. Describe the mode of action, diagnosis, management, postmortem findings and medico legal importance and management of phenol and carbolic acid poisioning

22. Describe the mode of action, diagnosis, management, postmortem findings and medico legal importance and management of organophosphorus poisning.
23. Classify drugs used for the treatment of Peptic ulcer.
24. Describe Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of Antacids.
25. Describe Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of antihistamines H_2 receptor antagonist.
26. Describe Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of proton pump inhibitors.
27. Describe Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of sucralfate.
28. Describe Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of Prostaglandin analogs.
29. Describe Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of Bismuth compounds.
30. What are different regimens for the treatment of peptic ulcer due to H pylori.
31. Enlist the receptors found in the vomiting center.
32. Classify Emetics and antiemetic drugs and describe Pharmacokinetics, mode of action, clinical uses and adverse effects, contraindications and drug interactions of important Emetics and antiemetic drugs.
33. Describe the role of H_1- Antagonists in the treatment of vomiting.
34. Describe Pharmacology of Prokinetic agents.
35. Describe the pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects and contraindications/Precautions and drug interactions of Metochlopramide and Domeperiodone. and other antiemetics
36. What is the role of scopolamine in prevention of motion sickness.
37. Desccribe the role of Neurokinin Receptor Blockers in preventing vomiting.
38. Describe the antiemetic effect of Butyrophenones, corticosteroids and cannabinord receptor agonists.
39. Describe the role of serotonin antagonists and dexamethasone in the treatment of vomiting induced by the anticancer drugs.

Skills

Gastric Lavage

Theme 2: (Diarrhoea)

1. Introduction of water related disease.
2. Concept of water related, water born, water based & water wash disease.
3. Epidemiological perspective of water related disease.
4. Prevention and control measures for water related disease.
5. Definition of Diarrheal disease, Cholera & Food Poisoning.
6. Classification of diarrheal diseases.
7. Epidemiology of Diarrhea/Cholera & Food Poisoning.
8. Food Adulteration.
9. Prevention and control strategy.
10. Enlist common organism of Enterobacteriaceae (EB) & Enumerate the common characteristics of EB
11. Enlist five virulent strains of enteric E.coli
12. Classify the Gram -ve rods causing diarrhea according to mechanism of action
13. Illustrate the pathogenesis and lab diagnosis and treatment of enteric fever
14. Salmonella food poisoning
15. Describe the morphology, identification and pathogenesis of Vibrio cholera
16. Discuss the morphology, progression, common sources and transmission of Campylobacter
17. Enumerate important properties, pathogenesis and lab diagnosis of Shigella, Bacillary dysentry
18. Enumerate the Enteroviruses

19. Enlist viruses causing diarrhea with their mechanism of action
20. Describe important properties, pathogenesis, lab diagnosis and treatment of Entamoeba histolytica and Giardia lamblia, Balantidium coli

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21. Describe oral rehydration solution in terms of its composition/uses.
22. Define Inflammatory Bowel Disease (IBD) in terms of its risk factors, pathogenesis, morphological (gross and microscopic), radiological and clinical features.
23. Differentiate between ulcerative colitis and Crohn's disease
24. Enlist extra intestinal manifestations of IBD
25. Discuss the role of natalizumab in the treatment of I.B.D
26. Enlist indications of surgery, outline surgical options in UC.
27. Introduction of worm infestation.
28. Classification of worm infestation.
29. Epidemiology perspective of worm infestation.
30. Prevention & control of worm infestation.
31. Describe the life cycles, lab diagnosis and treatment of medically important Cestodes
32. Describe life cycles, pathogenesis, clinical findings, lab diagnosis and treatment of medically important Trematodes
33. Describe life cycles, pathogenesis, clinical findings, lab diagnosis and treatment of intestinal Nematodes
34. Describe antibiotic associated Clostridium Dificile in terms of pathogenesis, lab diagnosis and management of Antibiotic Associated Diarrhea (CDAD)
35. Define Celiac disease in terms of clinical features; enlist its diagnostic criteria & formulate treatment plan of a patient of Celiac disease
36. Define irritable bowel syndrome with etiological factors, clinical features, criteria for diagnosis & treatment plan.
37. Describe water borne diseases in terms of various etiological factors, manifestations, socio-economical factors and prevention.
38. Define clean drinking water and describe types of water polluted and contaminated water.
39. Classify Antidiarrheal drugs.
40. Describe the Pharmacokinetics, mechanism of action, actions, clinical uses and adverse effects , contraindications, Precautions and drug interactions of drugs used in the treatment of diarrhea .
41. Describe oral rehydration solution in terms of its composition/uses.
42. Name drug(s) of choice and alternate agents for treatment of Typhoid fever
43. Name drug(s) of choice and alternate agents for treatment of Amebic dysentery
44. Name drug(s) of choice and alternate agents for treatment of Bacillary dysentery
45. Name drug(s) of choice and alternate agents for treatment of Cholera
46. Treatment of Coeliac disease and tropical spru.
47. Name drug(s) of choice and alternate agents for treatment of Pseudomembranous colitis.
48. Describe the classification, Pharmacokinetics, mechanism of action, clinical uses and adverse effects and drug interactions and contraindications of drugs used to treat inflammatory bowel disease.
49. Discuss the Pharmacokinetics, mechanism of action, clinical uses and adverse effects of Amino salicylates.
50. Demonstrate mechanism of action of Glucocorticoids in I.B.D.
51. Describe the mechanism of action and adverse effects of Methotrexate in I.B.D.
52. Describe the Pharmacokinetics, mechanism of action, clinical uses and adverse effects of azathioprine and 6-Mercaptopurine in I.B.D.
53. Enumerate the antitumor necrosis factors used for I.B.D.
54. Describe the Pharmacokinetics, mode of action, clinical uses and adverse effects of antitumor necrosis factors used for I.B.D.
55. Discuss the role of natalizumab in the treatment of I.B.D

56. Describe the role of following drugs in treatment of inflammatory bowel disease. Methotrexate, Glucocorticoids, Purine analogs, TNF α blocking drugs, Natalizumab.
57. Treatment of Irritable bowel syndrome.
58. Name drug(s) of choice and alternate agents for treatment of different cestodes infestations.
59. Name drug(s) of choice and alternate agents for treatment of different nematodes infestations.
60. Name drug(s) of choice and alternate agents for treatment of different trematodes infestations.

Skills

Preparation of ORS, Normal Saline, Dextrose saline, Dextrose Water
Different methods to purify water

Theme 3: GI Bleeding & Constipation:

1. List major causes of upper GI bleeding and general management
2. List important cause of lower GI bleeding
3. Define Mesenteric ischemia, enlist its various causes & types, outline investigations for diagnosis, and enlist clinical features, complications of Mesenteric ischemia.
4. Define and Classify laxatives/ purgatives/ cathartics and describe their Pharmacokinetics, mechanism of action, actions, uses, adverse effects, and drug interactions and contraindications and precautions.
5. Enumerate various Bulk forming laxatives along their important characteristics.
6. Write different stool softeners used in treatment of constipation. Through which route they are commonly administered. Describe administration, mechanism of action, uses, adverse effects and cautions for use of stool softeners.
7. Explain mechanism of action of Osmotic laxatives. Write different compounds that can be used as Osmotic laxatives and their pharmacokinetics, other uses, adverse effects and contraindications.
8. Explain the use of Polyethylene glycol as Osmotic laxatives in clinical settings.
9. Write different stimulant laxatives along their mode of action, Pharmacokinetics, uses and adverse effects.
10. Describe Anthraquinone and Diphenyl methane derivates used for treating constipation.
11. Describe the role of chloride channel activator, opioid receptor antagonists and serotonin 5-HT4- Receptor agonists in the treatment of constipation.
12. Explain role of opioid receptors in causing constipations.
13. How Linaclotide is effective in treating constipation?

Theme 4: Jaundice

1. Classification & definitions of various types of Hepatitis.
2. Epidemiology of Hepatitis.
3. Prevention and control strategy.
4. Describe Hepatitis in terms of etiology, pathogenesis, manifestations, laboratory & radiological diagnosis, complications and management.
5. Enlist viruses causing hepatitis.
6. Describe the important properties transmission, pathogenesis, clinical findings, lab diagnosis and prevention of HAV.
7. Give a brief account on post exposure management of percutaneous injury from patient with HBV infection.
8. Name the drugs used for the treatment of Viral Hepatitis.

SKILLS:

1. Interpret Liver functions tests
2. Lab diagnosis of viral hepatitis

Theme 5: Malnourishment:

1. Basic concepts of Nutritional Assessment.
2. Various tools used for Nutritional Assessment

3. Concepts of Balanced Diet.
4. Describe Balanced Diet; illustrate Nutritional requirements of adult person.
5. Discuss classification of Malnutrition.
6. Epidemiology of Malnutrition.
7. Prevention and control of Malnutrition.
8. List causes and pathophysiology of malabsorption syndrome.
9. Classify, and Describe their Pharmacokinetics, mechanism of action, actions, uses, adverse effects, and drug interactions and contraindications and precautions of drugs used in the treatment of obesity

Radiology
Students should be able to enlist the imaging modalities used for GIT disorders in order of preference.

CLINICAL CASES

Theme 1: (Acute Abdomen)
86-year-old Marium Bibi female was admitted in Accident and emergency of AIMS hospital with a one week history of loose stools, and a 4-day history of nausea and vomiting. She also complained of (c/o) distended abdomen with crampy abdominal pain. For the last two days, attempts have been made at managing her at the nursing home with intravenous (IV) fluids and antiemetic. She had no urinary complaints.
She was known case of Coronary artery disease (CAD), congestive heart failure (CHF), hypertension (HTN), peptic ulcer disease (PUD), osteoporosis and macular degeneration.
She had a history of Hysterectomy and placement of a permanent pacemaker.
She is taking Potassium (KCl), atorvastatin (Lipitor), lisinopril, Protonix (pantoprazole), aspirin, Coreg (carvedilol), Digitek (digoxin oral), and Lasix (furosemide).
She has reportedly multiple allergies including penicillin (PCN), Altace (ramipril), .Prevacid (lansoprazole), Norvasc (amlodipine), Ceclor (cefaclor), and Meclomen (meclofenamate).
On physical examination her Vital signs (VS)
temperature 100 F- pulse 94/min – Resp. Rate 36/min- BP 158/88 mm of Hg.
Appears acutely ill, she is in moderate distress and lethargic but arousable
Chest: bibasilar rhonchi, tachypneic
CVS: Clear S1S2
Abdomen: Distended and tympanic. She has generalized epigastric tenderness with mild guarding and rebound. Bowel sounds are hyperactive. Rectal exam showed heme negative stool.

Laboratory results:
WBC 16.4/mm3, hemoglobin 13 mg/dL, platelets were 269,000/mm3. She had 86% PMN, and no bands. Her white count at earlier this morning was 10.8/mm3.
X- Ray report:
Very prominent gaseous distention of multiple loops of small bowel overlying the lower abdomen and pelvis. Associated air fluid levels are noted on decubitus films.

Critical questions:
1. What are the medical & surgical causes of acute abdomen?
2. What are the causes of Intestinal obstruction?
3. How differentiate between acute and chronic obstruction?
4. What are the causes of abdominal distension?
5. What are the causes of fever in acute abdomen?

Theme 2: Diarrhea
A 27-year-old man is admitted to the hospital because of fever, with increasing anorexia, headache, weakness, and altered mental status of 2 days' duration. He is a frequent flyer. Ten days prior to admission He had a diarrheal illness that lasted for about 36 hours. He has been constipated for the last 3 days. His temperature is 39°F, heart rate 68/min, blood pressure 120/80 mm Hg, and respirations 18/min. On examination he is well oriented in time place and person. There are multiple red spots on his trunk. On palpation he has mild hepatosplenomegaly. The remainder

of the physical examination is normal. CBC shows increased white cell count. Blood cultures are done and an intravenous line is placed.

Critical questions:

A. What is the causative agent?
B. What lab tests can be done to confirm diagnosis?
C. What are the complications of this disease?
D. What is the management of this patient?
E. What is the mode of this disease?

Theme 3: Bleeding per rectum &Constipation:

A 6 month old child brought to emergency department of SKBZH with profuse rectal bleeding. After initial management patient was investigated. mother gave the/H/O constipation and reduced feeding for last two days. On physical examination a sausage shaped mass was felt upon palpation. A target-like mass, usually around 3 cm in diameter was found on USG. x-ray of the abdomen reveled intestinal obstruction with free intraperitoneal gas.

Past Medical History: Not relevantion
Allergies: No drug or environmental allergies.
Surgical History: The patient has had no surgery.
Hospitalizations: NIL

Review of Systems

- HEENT: Non-contributory
- Cardiovascular: non contributory
- Gastrointestinal sausage shaped mass on palpation
- Genital/Reproductive P/R showed with feeling of mass inside
- Urinary Normal
- Musculoskeletal. Normal
- Endocrine Normal
- Neuro Normal

General physical examination

Temperature: 100 ^{O}F
Pulse: 120 bpm with normal peripheral pulses
Respiration: 24 bpm
CNS No neurological deficit found

Investigations:
Labs:
Hb 7mg/dl
ESR: mildly raised

Special Investigations:
USG: mass in intestine
X-ray: intestinal obstruction with free peritoneal air

bleeding, Intestinal obstruction, Mass in abdomen

Critical Questions:

1. What is Meckel's Diverticulum in terms of etiology, manifestations, types and management.
2. How will you define Mesenteric ischemia, enlist its various causes & types, outline investigations for diagnosis, and enlist clinical features, complications of Mesenteric ischemia.
3. What are causes of rectal prolapse, enlist complications if not treated and enumerate its treatment options of rectal prolapse.
4. What are benign and malignant tumors of small & large intestine in terms of etiology, morphology, manifestations & treatment
5. What is Peutz-Jeghers syndrome?

6. What is frequency of occurrence of carcinoma colon at various sites from cecum to rectum and anus & enlist clinical features.
7. How will you grade rectal carcinoma?
8. What are different kinds of laxatives according to their mode of action.
9. How will you define Osmotic laxatives in clinical settings.
10. How Linaclotide does is effective in treating constipation.

Theme 4: Jaundice

Shakeel Ahmad student of 3rd year MBBS visited to Medical OPD after his friend mentioned him about yellow discoloration of his sclera. Te guy was investigated for viral hepatitis. The serology was found negative for any kind of virus. His USG abdomen was normal. The yellow discoloration was noted after his recovery for acute sore throat 3 days back. The medical specialist directed him to investigate for congenital hyperbilirubinemia. His serum UDP glucronidase was found decreased.

Past Medical History: Not relevant

Allergies: No drug or environmental allergies.
Surgical History: The patient has had no surgery.
Hospitalizations: NIL

REVIEW OF SYSTEMS

- HEENT: NON-CONTRIBUTORY
- CARDIOVASCULAR: NON CONTRIBUTORY
- GASTROINTESTINAL NORMAL
- GENITAL/REPRODUCTIVE NORMAL
- URINARY NORMAL
- MUSCULOSKELETAL. NORMAL
- ENDOCRINE NORMAL
- NEURO NORMAL

GENERAL PHYSICAL EXAMINATION

SCLERA: MILDYELLOW
TEMPERATURE: $98^{O}F$
PULSE: 78 BPM WITH NORMAL PERIPHERAL PULSES
RESPIRATION: 20 BPM
CNS NO NEUROLOGICAL DEFICIT FOUND

INVESTIGATIONS:

LABS:
SERUM BILIRUBIN; 19 UMOL/L
ALT: 42 U/L
AST: 40U/L
HB 14MG/DL

SPECIAL INVESTIGATIONS:

KEY WORDS

HYPERBILIRUBINEMIA, JAUNDICE, YELLOW DISCOLURATION

CRITICAL QUESTIONS

1. How will you differentiate various types of Hyperbilirubinemias
2. What are various storage diseases and their manifestations
3. What lab tests are used for differential diagnosis of viral hepatitis?
4. What is treatment strategy for chronic viral hepatitis?
5. What preventive measures should be taken to reduce incidence of viral hepatitis in Pakistan?
6. What are clinical indications and adverse effects of Lamivudine and Tenofovir.

7. What is Non alcoholic steatohepatitis (NASH) and how will you differentiate it from Non-alcoholic fatty liver disease?
8. What do you know about hepatitis C induced insulin resistence?

Theme 5: Malnourishment

A women who had been giving up for dead after the disaster earthquake of 8th October, 2005 was discovered alive in the rubble of her home, 63 days after the disaster the stop. Naqsha Bibi had been trapped in her kitchen in the house collapsed around her. The space in which she was entombed was so small that her muscles froze in this embryonic position.

Two days later a team of German Doctors Visiting the Kashmir Camp & discovered her still alive. The women survived on rotten food and rain water. An air passage appeared to have remained open through the heaps of debris.

On examination, she weighed about 70 pounds and was in a state of shock but remarkably physically stable. 80% of her muscles had atrophied. Her body was very stiff and there was no flexibility. She could not speak because of weakness and psychological trauma. The 1st challenge for the Doctors was to feed her .

Starting intravenously, they moved within hours to a liquid diet and were greatly encouraged by her body response to motivation. There was plan for extensive physiotherapy to help relieve her limb stiffness to normal again. Most Doctors were convinced that by giving the right treatment, Naqsha Bibi may be able to lead a normal life once again.

Critical Questions:

1. What are different methods of Nutritional Assessment.
2. What is Malnutrition and its classification.
3. What is Balanced diet & its components.
4. What is Nutritional Anemia its prevention and control.
5. What are Food borne diseases and their prevention.

PBL-1

Mr Jamil, a fifty-eight year old grocery store manager, had recently been waking up in the middle of the night with abdominal pain. This was happening several nights a week. He was also experiencing occasional discomfort in the middle of the afternoon. Mr Jamil decided to schedule an appointment with his physician.

The doctor listened as Jamil described his symptoms and then asked Jamil some questions. He noted that Jamil's appetite had suffered as a result of the pain he was experiencing and as a result of the fear that what he was eating may be responsible for the pain. Otherwise, Jamil seemed fine.

The doctor referred Jamil to a physician that specialized in internal medicine and had Jamil make an appointment for a procedure called an endoscopy. The endoscopy revealed that Jamil had a peptic ulcer. Analysis of a tissue sample taken from the site showed that Jamil also had an infection that was caused by Helicobacter pylori bacteria.

He had a history of allergy to penicillin.

PBL-2

Four members family came to the hospital because of diarrhea and fever starting 6–12 hours earlier. The father was 28, the mother 24, and the children 6 and 4 years of age. The previous day, the family had a meal of mixed green salad, ground meat, and Chapatis prepared by their cook. Another child in the family, 8 months old, had not eaten the same meal and remained well. Approximately 24 hours after the meal, the children developed abdominal cramps, fever, and watery diarrhea. These symptoms had persisted for the preceding 12 hours, and in both children the diarrhea had become bloody. The parents had developed similar symptoms 6 and 8 hours earlier but did not have blood visible in their stools.

The parents stated that the house is on hill top and the sanitation facilities were not up to the mark.

On physical examination, the children had temperatures of 39–39.5 °C and the parents 38 °C. All had tachycardia and appeared acutely ill. Both children appeared dehydrated.

White blood cell counts ranged from 12,000 to 16,000/ L, with 55–76% polymorphonuclear cells. Multiple white blood cells were seen in the fecal wet mounts. Stools from the children were grossly bloody and mucoid.

RESOURCE FOR LEARNING

Reference Books

1. Robbins Basic Pathology 8th Ed
2. Robbins And Cortan Pathology Basis Of Disease With Searchable Full Textonline 8th Ed
3. Robbins And Cortan Atlas Of Pathology 2nd Ed.
4. Robbins And Cotran Review Of Pathology 3rd Ed
5. Brs Pathology
6. Medical Microbiology By Jawetz, Melnick & Adelberg's 25th Edition
7. Basic and Clinical Pharmacology, Bertram G. Katzung, Susan B. Masters, Anthony J. Trevor 12th ed , 2012
8. Pharmacology, Lippincott's Illustrated Revie 6th , 2015
9. Katzung Trevor's Pharmacology , Examination & Board Review, Anthony J. Trevor, Bertram G. Katzung, Susan B. Masters 10th , 2013
10. Goodman & Gilman's The Pharmacological Basis of Therapeutics, Brunton L.L. 12th, 2012
11. Parikh forensic medicine.
12. Public Health & Community Medicine By Muhammad Ilyas.
13. Preventive&Social Medicine By K. Park/JE Park
14. Park book of community medicine

Web Links

Following online medical dictionaries can be referred

www.nlm.nih.gov
www.medterms.com
www.bloodmed.com
www.online-medical-dictionary.org
www.medscape.com
www.jpathology.com
www.cdc.com

AJK Medical College, Muzaffarabad

LMF Module & (GIT & Nutritional Diseases) Module – 3rd Year MBBS

Week□1

DATE→					
TIME↓	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**
8:00am-09:00 am	**LGIS** Burn Injuries **Prof. Dr. Humayun**	**LGIS** Sexual Jurispondence Impotence, virginity, infotality, Pregnancy **Prof. Humayun**	**LGIS** Introduction to GIT & Nutritional Diseases Module **Prof. Munir & Module Team & HODs concerned**	**LGIS** Treatment of peptic Ulcer-I **Prof Arif/Dr Inayat**	**SGD** Treatment of Peptic Ulcer- II **Prof. Arif & Team**
9:00am-10:00 am	**Clinical Rotation** **9:00 am to 12:30 pm**		**LGIS** HNO_3 Poisoning Vitriolage **Prof. Humayun/Dr. Naseer**	**Clinical Rotation** **9:00 am to 12:30 pm**	
		Break 10:00 – 10:15			
10:15-11.15 am		**LGIS** Sexual Offences **Prof. Dr. Humayun**	**LGIS** Role of H. Pylori in Peptic Ulcer **Prof. Mohd. Munir**		**LGIS** Taeniasis **Prof. Dr. Mohd. Munir**
					Break
11:15-12.15 PM		**PBL-2B**	**LGIS** Peptic ulcer disease **Prof Anwar Ul Haque**		**LGIS** Organic Acids Poisoning **Prof. Humayun/Dr. Naseer**
12:15-1:00 PM			**LGIS** Medical Causes of Acute abdomen **Prof. Javed Rathore**		**LGIS** Enteric fever **Dr. Mumtaz**
1:00-1:45 PM	**LGIS** Electrocution & Lighting **Dr. Naseer Sheikh**	**LGIS** Evidence related procedure **Prof. Dr. Humayun**	**LGIS** Antiemetic and Laxatives **Prof Arif/Dr. Inayat**	**LGIS** Gastric Lavage **Prof. Humayun/Dr. Naseer**	**Jumma Break**
1.45 pm-2.00 pm	**PRAYER BREAK**				
2.00 P.M-4.00 Pm	**DSL**	**DSL**	**DSL** **Peptic Ulcer Disease**	**Treatment of Peptic Ulcer DSL**	**DSL**

AJK Medical College, Muzaffarabad

LMF Module & (GIT & Nutritional Diseases) Module – 3rd Year MBBS

Week 2

DATE→					
TIME↓	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**
8:00am-09:00 am	**Written Assessment** **CVS & Hemo and Legal Medicine**	**IPA Block-2**	**PBL 1A** **Prof. Arif & Team-4**	**LGIS** Bacillary Dysentery & Cholera **Dr. Mumtaz**	**LGIS** Travellers Diarrhea **Dr Mumtaz**
9:00am-10:00 am			**LGIS** Amoebic dysentery **Prof. Dr. Mohd. Munir**	**Clinical Rotation** **9:00 am to 12:30 pm**	**LGIS** Water Related GIT Disease **Prof. Brig(Rtd.) Ahmad Khan**
Break 10:00 – 10:15			**Break 10:00 – 10:15**		**Break 10:00 – 10:15**
10:15 - 11.15 am			**LGIS** Salivary gland Pathology **Prof. Sarosh Majid**		**PBL-1B** **Prof. Dr. M Arif & Team**
11:15 - 12.15 PM	**Clinical Rotation**		**LGIS** Inorganic Nonmetallic Poisons **Prof. Dr. Humayun/Dr. Naseer**		**SGD** Antidiarrheal Drugs treatment of GIT infections and infestations **Prof. Dr. M Arif/Dr. Inayat**
12.15 -1.00. P.M			**LGIS** Food Poisoning **Dr. Mumtaz**		
1:00 - 1.45 P.M	**LGIS** Treatment of peptic Ulcer-III **Prof Arif/Dr Inayat**		**LGIS** Coeliac Disease & Tropical Spru **Maj. Dr. Asif**	**LGIS** Hepatitis A & Hepatitis E **Prof Dr. Mohd. Munir**	**Jumma Break**
1.45 pm-2.00 pm	**Prayer Break**				
2.00 P.M-4.00 Pm	**DSL**	**DSL**	**DSL**	DSL	**DSL**

AJK Medical College, Muzaffarabad

LMF Module & (GIT & Nutritional Diseases) Module – 3rd Year MBBS

Week□3

DATE					
TIME	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**
8.00am - 9.00 am	**LGIS** Inorganic Metallic Poisons **Prof. Humayun / Dr. Naseer**	**LGIS** Ischemic Bowel Disease **Prof. Dr. Anwar**	**LGIS** Organo phosphorus poisoning **Prof. Humayun/ Dr. Naseer**	**LGIS** Phenol and carbolic Acid poisoning **Prof. Humayun/ Dr. Naseer**	**LGIS** Nutritional assessment **Prof. Dr Brig (Rtd.) Ahmad Khan/Dr. Batool**
9.00am-10.00 am	**CLINICAL ROTATION**	**LGIS** Malnutrition/ Balanced Diet **Prof. Dr Brig (Rtd.) Ahmad Khan/Dr. Mumtaz**	**LGIS** Enterobiasis & Giardiasis **Prof. Dr. Mohd. Munir**	**Clinical Rotation**	**LGIS** Acute Diarrheas in Children **Prof Nagi**
10.00am -10.30 am		Break			Break
10.30am -11.30 am		**LGIS** Malabsorption **Prof. Nagi**	**SGD** IBD **Team-3** Wrap up **Prof. Sarosh Majid**		**LGIS** Liver Function Tests **Maj. Saba Irum**
11.30am -12.30 pm		**SGD** Treatment of IBD & IBS **Prof. Dr. Arif /Dr. Inayat & Team-4**			**PBL 2 B Prof Munir and Team-3**
12.30pm -01.30 pm	**LGIS** Clostridium difficile and Compylobacter Jejuni **Prof Munir/Dr Mumtaz**		**LGIS** IBD **Prof. Javed Rathore & Dr. Sarmad Latif**	**LGIS** Gastrointestinal bleeding **Prof Nizam-ud-Din**	
	01.30am -02.00 pm **Break**				
02.00pm -3.00 pm	**LGIS** Worm infestation **Dr. Bilal**	**LGIS** Diarrheal Disease; Cholera & Food Poisoning **Dr Uzma Hafeez /Dr. Batool**	**LGIS** Malnutrition and obesity **Prof Nagi**	**Practical Pathology** GIT Lesions **Prof Sarosh**	**SDL**
3.00pm-4.00pm	**PBL-2A Prof. Dr. Mohd. Munir/Dr. Mumtaz & Team-3**	**LGIS** Medical officer and suspected poisoning **Prof. Humayun / Dr. Naseer**	**LGIS** Organic Irritants **Prof. Humayun/ Dr. Naseer**		

AJK Medical College, Muzaffarabad

LMF Module & (GIT & Nutritional Diseases) Module – 3rd Year MBBS

Week 4

DATE	8ST AUG 2016
TIME	**MONDAY**
8.00am -9.00 am	**LGIS** Radiology in GIT **Dr Shaukat Dar**
9.00am-10.00 am	**CLINICAL ROTATION**
10.00am -10.30 am	
10.30am -11.30 am	
11.30am -12.30 pm	
12.30pm -01.30 pm	**LGIS** Congenital Hyperbilirubinemia **Dr Wafa**
01.30am - 02.00 pm	**BREAK**
02.00pm-4.00 pm	**Practical Pharmacology**

For Inquiries & Trouble Shooting please contact

Department of Medical Education

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