

YR 2 GASTROINTESTINAL UNIT EXAMINATION -- April 23, 1999.

CHOOSE THE SINGLE BEST ANSWER FOR QUESTIONS 1 - 87.

**QUESTIONS 1 - 22 ARE RELATED TO THE PHOTOGRAPHS PROVIDED.**

1. What is the MOST LIKELY clinical presentation/manifestations corresponding to the liver biopsy shown in **Figure 1**?
  - A. Clinically well, abnormal transaminases for more than one year
  - B. Diabetes, cardiomyopathy, skin hyperpigmentation
  - C. Ascites, muscle wasting, somnolence
  - D. Nausea, jaundice, abdominal discomfort
  - E. Seizures, cerebral edema, renal failure
  
2. Which of the following is the MOST LIKELY etiology for the histologic findings in **Figure 1**?
  - A. HCV infection
  - B. Drug/toxin ingestion
  - C. Chronic bile duct obstruction
  - D. Cardiac failure
  - E. Autoimmune disease
  
3. **Figure 2** is a high magnification photo from a portal triad. What was the most likely clinical presentation of this patient?
  - A. Puritis with cutaneous xanthomas
  - B. Ulcerative colitis with recent development of jaundice
  - C. Hepatorenal syndrome
  - D. Unconjugated hyperbilirubinemia
  - E. Serum transaminase elevations (2-3 x normal) for 8 months

4. Which of the following tests is most likely to have value in establishing the diagnosis (**Figure 2**)?
- A. ERCP
  - B. Serum alkaline phosphate
  - C. Serologic testing for viral infection
  - D. Serum bilirubin level
  - E. Anti-mitochondrial antibody test
5. Which of the following is the most likely clinical manifestation/presentation corresponding to the liver biopsy shown in **Figure 3**?
- A. Asymptomatic serum transaminase elevation
  - B. Hypoglycemia, coagulopathy, serum ALT > 12000
  - C. Palpable gallbladder, cachexia, abnormal ERCP
  - D. Fever, malaise, tender hepatomegaly
  - E. Ascites, bleeding esophageal varices, wasting
6. What is the most likely cellular level pathogenesis initiating the alterations shown in **Figure 3**?
- A. Viral replication
  - B. Toxic effects of bile components
  - C. Free radical induced injury
  - D. Autoimmune attack on bile ducts
  - E. Hypoxia

7. Most likely etiology of the histologic alterations shown in **Figure 4**, a 55 year old Caucasian male at a local hospital (trichrome stain):
- A. Alcoholism
  - B. HBV infection
  - C. HCV infection
  - D. Hemochromatosis
  - E. Bile duct obstruction
8. Most likely pathogenesis leading to the histologic alterations shown in **Figure 4**:
- A. Fibroblast proliferation
  - B. Persistent cytokine stimulation of Ito cells
  - C. DNA mutation
  - D. Inability of hepatocytes to proliferate
  - E. Sudden, massive death of hepatocytes
9. **Figure 5** shows a high magnification photo of a hepatic mass. Which clinical scenario fits best?
- A. obstructive jaundice, mass in head of pancreas
  - B. Cirrhotic patient with chronic HBV infection
  - C. Asymptomatic, nodule was incidentally discovered during surgery for gastric ulcer in an otherwise normal liver
  - D. Multiple episodes of cholecystitis, history of bile duct stricture
  - E. History of colon cancer, now with hepatomegaly

10. Most likely gross appearance corresponding to **Figure 5**:
- A. Hard, tan-white single nodule with stellate edge
  - B. Soft, spongy, bloody nodule
  - C. Multilocular cystic mass
  - D. Multiple nodules, tan-green, firm but not hard
  - E. Multiple gritty, desmoplastic nodules
11. Most likely etiology corresponding to the histologic changes in **Figure 6**:
- A. HCV infection
  - B. Alcohol ingestion
  - C. HAV infection
  - D. Common bile duct obstruction
  - E. Combined Tylenol/alcohol ingestion
12. Most likely clinical consequence depicted in **Figure 6**:
- A. Cerebral edema
  - B. Sepsis
  - C. Complete recovery
  - D. Cholangiocarcinoma
  - E. Hepatocellular carcinoma
13. The histologically normal site depicted in the photomicrograph (**Figure 7**) is most likely to be affected by:
- A. Plummer-Vinson syndrome
  - B. Achalasia
  - C. Sprue
  - D. Whipple's disease
  - E. Ulcerative colitis

14. The disease shown in the photomicrograph (**Figure 8**) is caused by:
- A. Mutation of p53
  - B. Reflux esophagitis
  - C. Infection
  - D. APC mutation
  - E. MALToma
15. The patient whose resection specimen is shown in the gross photo (**Figure 9**) is LEAST likely to have had:
- A. Heart burn
  - B. Dysplasia
  - C. Reflux
  - D. Specialized epithelium
  - E. Schatzki rings
16. This patient was shown to have a malignancy on esophageal biopsy. Conditions which can be associated with development of the lesion in the resection specimen shown (**Figure 10**) include:
- A. Diffuse esophageal spasm
  - B. Hiatal hernia
  - C. Anemia
  - D. Barrett's esophagus
  - E. H. pylori infection
17. The lesion shown in the gross photograph (**Figure 11**) is:
- A. Most common in females
  - B. Usually symptomatic
  - C. Usually located in the ileum
  - D. Present in 1 of 2500 live births
  - E. More common in the West

18. The patient whose biopsy is shown (**Figure 12**) is MOST LIKELY to have had:
- A. Anti-smooth muscle antibodies
  - B. Anti-nuclear antibodies
  - C. Steatorrhea
  - D. Jaundice
  - E. Giardiasis
19. The lesion shown in **Figure 13** occurs:
- A. Commonly in teenage children and young adults
  - B. In association with masses
  - C. As a consequence of defective neural crest cell migration
  - D. In association with Olestra ingestion
  - E. As a congenital defect
20. The disease present in the specimen shown in the photograph (**Figure 14**):
- A. Presents most commonly in Disney characters
  - B. Is associated with liver disease
  - C. Presents most commonly in Asians
  - D. Is associated with an increased risk of squamous cell carcinoma
  - E. Is associated with granuloma formation
21. The photograph (**Figure 15**) shows a disease:
- A. That is associated with a 5 year survival of at least 90%
  - B. Whose prognosis is most closely related to tumor size
  - C. That is associated with activating mutations of APC
  - D. That may be prevented by surveillance colonoscopy
  - E. That is more common in patients with hyperplastic polyps

22. The disease shown in the gross photograph (**Figure 16**) is:
- A. More common in the elderly
  - B. The result of a congenital anomaly
  - C. More common in Asia
  - D. Only rarely symptomatic
  - E. Confined to the jejunum
23. Which of the following is the most useful indicator of prognosis in a case of acute pancreatitis?
- A. Degree of serum amylase elevation
  - B. Degree of serum lipase elevation
  - C. Severity of abdominal pain
  - D. Degree of alkaline phosphatase elevation
  - E. Findings on abdominal CT scan
24. Which of the following is MOST LIKELY to be a feature of pancreatic adenocarcinoma?
- A. Zymogen granules in neoplastic cells
  - B. Dysplasia of acinar epithelium
  - C. Preinvasive neoplasm in pancreatic duct
  - D. Direct invasion into large bowel
  - E. Soft, red-brown gross appearance
25. Correct statement about cholelithiasis:
- A. It has a greater prevalence in males than females
  - B. Malabsorption of bile salts is a risk factor
  - C. Most cases result in pancreatitis
  - D. Most cases are due to pigment calculi
  - E. Most cases result in acute cholecystitis

26. A tissue section obtained from a pancreatic pseudocyst, which includes the lining surface, is most likely to show which of the following:
- A. A benign simple, columnar epithelium
  - B. Dysplastic epithelium
  - C. Granulation tissue
  - D. Benign squamous epithelium
  - E. Adenocarcinoma
27. Which of the following is LEAST LIKELY to be a radiographic/pathologic finding in an example of chronic pancreatitis?
- A. Dilation of ducts
  - B. Calcifications
  - C. Acinar cell atrophy
  - D. Prominent hemorrhage
  - E. Firm, grey-white appearance
28. Most likely to be a complication resulting from acute pancreatitis:
- A. Ileus
  - B. Hypercalcemia
  - C. Hypoglycemia
  - D. Diarrhea
  - E. Adenocarcinoma of the pancreas



29. Least likely to be a pathologic feature of chronic cholecystitis:
- A. Fibrosis
  - B. Cholelithiasis
  - C. Mononuclear cell infiltration
  - D. Mucosal diverticula
  - E. Prominent fibrin exudation on serosal surface
30. Most likely pathogenesis of mucosal injury in acute cholecystitis:
- A. Bacteria from lumen damage epithelium
  - B. Bacteria from circulation damage small blood vessels
  - C. Epithelial cell-derived proteases damage the mucosa
  - D. Bile components damage epithelium
  - E. Mononuclear cell-derived proteases damage the mucosa
31. A patient of yours has been diagnosed as having cholangiocarcinoma. Which of the following is least likely to be present?
- A. Obstructive jaundice
  - B. A single red-brown soft subcapsular nodule in the liver
  - C. Cholelithiasis
  - D. A congenital anomaly of the biliary ductal system
  - E. Increased hepatic copper levels

32. Tracheoesophageal fistulae are not generally associated with:
- A. Esophageal atresia.
  - B. Cardiac malformations.
  - C. Cystic fibrosis.
  - D. Pneumonia.
  - E. Anorectal malformations.
33. Hiatal hernia is:
- A. Uncommon in Western adults.
  - B. Symptomatic in most affected individuals.
  - C. A cause of esophageal reflux.
  - D. A cause of increased LES tone.
  - E. Due to extension of the esophagus below the diaphragm.
34. The most frequent cause of esophagitis in Immunocompetent patients is:
- A. Herpes simplex virus
  - B. Zenker's diverticulosis
  - C. Ingested mucosal irritants
  - D. Exposure to gastric acid
  - E. Candida albicans
35. Barrett's esophagus is:
- A. Associated with squamous metaplasia.
  - B. Associated with an increased risk of MALToma.
  - C. Associated with a decreased risk of squamous cell carcinoma.
  - D. Associated with an increased risk of adenocarcinoma.
  - E. Associated with human papillomavirus infection.

36. Which of the following is LEAST common in the stomach?
- A. Signet ring cell carcinoma
  - B. Intestinal type adenocarcinoma
  - C. MALToma
  - D. Linitis plastica
  - E. Squamous cell carcinoma
37. Survival in gastric cancer is:
- A. Related to H. pylori status
  - B. More favorable than colon cancer
  - C. Independent of lymph node status
  - D. Related to depth of invasion
  - E. Dependent on cancer histology
38. Gastric adenocarcinoma is most strongly associated with:
- A. Alcohol use
  - B. Tobacco use
  - C. Viral infection
  - D. Bacterial infection
  - E. Fungal infection
39. Villi are:
- A. The home of Paneth cells
  - B. Hypertrophic in celiac disease
  - C. Responsible for cell renewal
  - D. The site of  $\text{Cl}^-$  secretion
  - E. The site of nutrient absorption

40. A patient who reports diarrhea after eating dairy products probably has a disease that is:
- A. Often identified at birth
  - B. Most common in Caucasians
  - C. Due to a mutation in the lactose transporter gene
  - D. Caused by osmotic effects
  - E. Due to impaired Cl<sup>-</sup> secretion
41. The best oral rehydration solution (solution that will drive the most water absorption when ingested) would include:
- A. Galactose + H<sub>2</sub>O
  - B. Glucose + H<sub>2</sub>O
  - C. NaCl + H<sub>2</sub>O
  - D. Galactose + NaCl + H<sub>2</sub>O
  - E. Glucose + NaCl + H<sub>2</sub>O
42. The primary defect in cystic fibrosis is thought to be:
- A. An ion channel defect
  - B. Excessive Cl<sup>-</sup> secretion
  - C. Dysfunctional tight junctions
  - D. Alpha-1-antitrypsin deficiency
  - E. Chronic pancreatitis
43. Normal components of the small bowel mucosa do NOT include:
- A. Enterocytes
  - B. Lamina propria
  - C. Muscularis propria
  - D. Lymphatics
  - E. Inflammatory cells

44. Malabsorption in cystic fibrosis is due to a defect in:
- A. The luminal phase
  - B. Microvillus membrane function
  - C. Surface area available for absorption
  - D. Lymphatic flow
  - E. First-pass effect
45. A patient with celiac disease is LEAST likely to have:
- A. Villous flattening on biopsy
  - B. Fe deficiency
  - C. Antibodies to tissue transglutaminase
  - D. Intraepithelial lymphocytes on biopsy
  - E. Intestinal lymphoma
46. Gastric mucosal protective forces include:
- A. Paracellular absorption.
  - B. H<sup>+</sup> secretion.
  - C. HCO<sub>3</sub><sup>-</sup> absorption.
  - D. Cellular regeneration
  - E. Gastrin hypersecretory response to injury.
47. A patient with newly-diagnosed ulcerative colitis goes into remission after a mild first attack. At colonoscopy disease is seen from rectum to cecum, but the endoscopist could not visualize the ileum. This patient is most likely to:
- A. Require resection within 10 years
  - B. Have ileal involvement
  - C. Have skin disease
  - D. Develop primary sclerosing cholangitis
  - E. Require surveillance colonoscopy

Questions 48 - 50 refer to the following case.

A previously healthy 27 year old male presents with weight loss, muscle wasting, macrocytic anemia, and purpura. He has non-bloody diarrhea.

48. Which of the following is the most likely diagnosis?
- A. Ulcerative colitis
  - B. Barrett's esophagus
  - C. H. pylori gastritis
  - D. Celiac disease
  - E. Acute pancreatitis
49. Endoscopy shows multiple white patches in the small bowel. Pathologic features are likely to include:
- A. Viral inclusions
  - B. Epithelial vacuolization
  - C. Intestinal metaplasia
  - D. Histiocytic (macrophage) aggregates
  - E. Crypt abscesses
50. Based on this history and the histology, which of the following is most likely?
- A. Rotavirus infection
  - B. Giardiasis
  - C. Cryptosporidiosis
  - D. C. difficile infection
  - E. Mycobacterial infection

51. Carcinoid tumors of the small intestine are:
- A. Associated with carcinoid syndrome in > 90% of cases
  - B. Benign if less than 2 cm in size
  - C. Less aggressive than rectal carcinoid tumors
  - D. A cause of bowel obstruction
  - E. Responsive to radiation therapy
52. A patient who presents with the carcinoid syndrome is LEAST likely to have:
- A. An appendiceal carcinoid tumor
  - B. Increased serum serotonin
  - C. Metastatic disease
  - D. Flushing of the skin
  - E. Diarrhea
53. An ulcerative colitis patient's risk of colorectal dysplasia is most closely related to:
- A. Colitis severity
  - B. Extent of ileitis
  - C. Disease duration
  - D. Presence of erythema nodosum
  - E. Primary sclerosing cholangitis
54. Proposed causes of diverticulitis include:
- A. Vascular supply to the ileum
  - B. Decreased intraluminal pressure
  - C. Diverticular neck obstruction
  - D. Weakness of the muscularis mucosa
  - E. Ischemia

55. The risk of colon cancer is NOT increased for patients with:
- A. Juvenile polyposis
  - B. Hirschsprung's disease
  - C. Ulcerative colitis
  - D. Crohn's disease
  - E. Peutz-Jegher's polyposis
56. Adenocarcinoma of the colon is associated with:
- A. Activation of p53
  - B. Activation of APC
  - C. Activation of DCC
  - D. Activation of K-ras
  - E. Activation of MSH2
57. Which of the following can be inherited?
- A. Barrett's esophagus
  - B. Hiatal hernia
  - C. Hyperplastic polyposis
  - D. Lynch syndrome (HNPCC)
  - E. Hirschsprung's disease
58. On endoscopy a patient is found to have a 3 cm rectal polyp. The pathology report says that the polyp is an adenoma with focal intramucosal carcinoma. The report also states that the lesion has been completely excised. Appropriate additional therapeutic interventions could include:
- A. Segmental resection
  - B. Whole body CT to locate metastases
  - C. Follow up colonoscopy in 6 months
  - D. Radiation therapy
  - E. Chemotherapy



59. A 67 year old man is found to have Fe-deficiency anemia. He has mild fatigue, but no other symptoms. There has been no change in his dietary or bowel habits. Fecal occult blood test is positive. Statistically, the lesion this patient is most likely to have causing the anemia is:
- A. Esophageal cancer
  - B. Celiac sprue
  - C. Leaking esophageal varices
  - D. Colon cancer
  - E. Gastric ulcer
60. Which of the following is LEAST likely to influence a Schilling test?
- A. Pancreatic exocrine insufficiency
  - B. Duodenal ulcer
  - C. Multiple jejunal diverticula
  - D. Total gastrectomy
  - E. Autoimmune gastritis
61. A reasonable explanation for small intestinal bacterial overgrowth causing an abnormal d-Xylose test would be:
- A. Bacteria metabolize the d-Xylose before it can be absorbed.
  - B. Bacteria deconjugate bile salts necessary for d-Xylose absorption
  - C. Bacterial metabolic products interfere with the measurement of urinary d-Xylose.
  - D. Bacteria speed up intestinal motility to such a degree that most d-Xylose is not in contact with small bowel mucosa long enough for absorption.
  - E. Bacteria change the intestinal pH to such a degree that pancreatic enzymes work very inefficiently.

62. A 47 year old woman has antrectomy (gastric antrum removed), vagotomy (vagus nerve trunks cut), and gastro-jejunostomy (remaining stomach hooked up directly to the jejunum) for intractable ulcer disease. The surgeon inadvertently leaves a small amount of antrum left attached to the oversewn duodenal stump. The serum gastrin was normal before surgery. What would you expect from a follow-up measurement of serum gastrin?
- A. It would be unmeasurable
  - B. It would be elevated
  - C. It would be lower than before surgery
  - D. There would be little or no change
63. The same patient develops anemia one year after surgery. It is probably due to:
- A. Fe deficiency
  - B. Vitamin B12 deficiency
  - C. Folate deficiency
  - D. Pancreatic insufficiency
  - E. Gastric achlorhydria
64. Which of the following statements is INCORRECT?
- A. Alkaline phosphatase is LESS specific for liver than 5'-nucleotidase.
  - B. Total bilirubin is HIGHER than conjugated bilirubin.
  - C. AST is MORE specific for liver than ALT.
  - D. AST tends to be HIGHER than ALT in alcoholic hepatitis.
  - E. Conjugated bilirubin is HIGHER than unconjugated bilirubin in bile duct obstruction.

65. A 32 year old woman is found to have persistently abnormal "liver function tests." She has some mild fatigue ever since these were found seven months ago. She does not take any medications. Specifically, ALT is 91 (normal 0-60), AST is 87 (normal 0-60), alkaline phosphatase is in the normal range. Hepatitis serologies and ANA are negative. Physical examination shows mild hepatomegaly. The patient is quite overweight. The test that would likely give the most useful information here would be:
- A. ERCP
  - B. Ultrasound of abdomen
  - C. Percutaneous transhepatic cholangiogram
  - D. Liver biopsy
66. Which of the following patients would be most likely to have his/her prothrombin time corrected with an intramuscular injection of Vitamin K?
- A. A 19 year old heroin user with fulminant hepatitis B.
  - B. A 47 year old alcoholic with cirrhosis, portal hypertension and chronic hepatitis C.
  - C. A 75 year old man with jaundice, itching and carcinoma of the head of the pancreas.
  - D. A 51 year old former alcoholic with cardiomyopathy and acute, severe worsening of congestive heart failure.
  - E. A 22 year old depressed woman who has taken a massive acetaminophen overdose
67. Which of the following DOES NOT contribute to the formation of ascites in cirrhosis?
- A. Hypoalbuminemia
  - B. Decreased hepatic lymph production and flow
  - C. Renal sodium retention
  - D. Splanchnic and systemic arterial vasodilation
  - E. Increased sinusoidal hydrostatic pressure

68. Portosystemic encephalopathy may be improved by all EXCEPT:
- A. Sedatives
  - B. Lactulose
  - C. Neomycin
  - D. Laxatives
  - E. Antibiotics
69. In which one of the following is the serum-ascites albumin gradient less than 1.1 g/dL?
- A. Cirrhosis
  - B. Congestive heart failure
  - C. Constrictive pericarditis
  - D. Hepatic vein thrombosis (Budd-Chiari)
  - E. Peritoneal cancer (carcinomatosis)
70. Which of the following is NOT indicated in a patient with active bleeding from esophageal varices?
- A. Octreotide (somatostatin analog)
  - B. Vasopressin and nitroglycerine
  - C. Portal vein ligation
  - D. Endoscopic injection sclerosis
  - E. TIPS (transjugular intrahepatic portosystemic shunt)

71. In a patient with hepatorenal syndrome, which of the following would be FALSE?
- A. The kidneys will function normally following liver transplant.
  - B. The serum sodium is often low due to the fact that the kidneys are actively dumping sodium.
  - C. The BUN and creatinine levels look like an intensely "pre-renal" azotemia.
  - D. The syndrome is unlikely to be reversed with aggressive IV fluid administration.
  - E. The syndrome is often progressive and associated with high mortality rates.
72. Of the following tests, the one that would be LEAST valuable in determining the success of treatment to eradicate *Helicobacter pylori* is:
- A. Rapid urease (CLO-test)
  - B. <sup>13</sup>C-labeled urea breath test
  - C. Antral biopsy with stains for *H. pylori*
  - D. Blood serology for *H. pylori* antibodies
73. Which of the following would be a reasonable and effective treatment for Achalasia?
- A. Botulinum toxin injection into the Upper Esophageal Sphincter (UES)
  - B. Balloon myotomy of the Lower Esophageal Sphincter (LES)
  - C. Proton pump inhibitor
  - D. Surgical reduction of hiatal hernia and fundoplication
  - E. Cholinergic agonist (e.g. bethanachol)

74. Which gastrointestinal problem would be UNLIKELY in association with hyperthyroidism?
- A. Peptic ulcer disease
  - B. Zollinger-Ellison syndrome
  - C. Pancreatitis
  - D. Constipation
  - E. Atrophic gastritis
75. The best way clinically to determine pancreatic necrosis as a result of acute pancreatitis would be:
- A. Plain abdominal x-ray
  - B. The height of the lipase elevation
  - C. Abdominal ultrasound
  - D. Abdominal CT scan with IV contrast
  - E. ERCP
76. Which one of the following would be distinctly unusual in a patient with chronic pancreatitis?
- A. Steatorrhea
  - B. Recurrent abdominal pain
  - C. Vitamin B12 deficiency
  - D. Diabetes mellitus
  - E. Due to Gallstones

77. In which of the following patients would Misoprostol (a prostaglandin analogue) be of most benefit for ulcer prophylaxis and prevention of related complications?
- A. A 41 year old man with recurrent duodenal ulcer, doing better while taking nightly cimetidine
  - B. A 64 year old woman with rheumatoid arthritis and a history of gastric ulcer who needs NSAIDs and prednisone to control her inflammatory arthritis
  - C. A healthy 22 year old woman college senior who is placed on NSAIDs for treatment of a knee injury suffered during a lacrosse match
  - D. A 36 year old immigrant Russian man with a history of duodenal ulcer, smoking, and successful eradication of *Helicobacter pylori* infection
  - E. A 75 year old man with inoperable cancer of the gastric body
78. Pseudomembranous colitis is MOST CLOSELY associated with which of the following?
- A. AIDS
  - B. Colon cancer
  - C. Antibiotic use
  - D. Toxic megacolon
  - E. *E. coli* 0157:H7

79. Which of the following statements is TRUE concerning inflammatory bowel disease?
- A. Surgery is avoided as much as possible in ulcerative colitis because recurrence of disease is the rule within 5 years postoperatively.
  - B. Corticosteroids are the most successful medications for maintaining remission of disease in both ulcerative colitis and Crohn's disease.
  - C. Bowel obstruction is a fairly common presentation of ulcerative colitis.
  - D. Tenesmus and bloody diarrhea would be seen more commonly in ulcerative colitis than in Crohn's disease.
  - E. back pain and hip flexor spasm from psoas abscess would be expected not too uncommonly in ulcerative colitis.
80. Gastrintestinally-related symptoms that might be expected as a direct result of pregnancy would include all of the following EXCEPT:
- A. Heartburn
  - B. Vomiting
  - C. Diarrhea
  - D. Pruritus
  - E. painful anal protrusion
81. Which organism of the following is not implicated as a chronic small intestinal pathogen in AIDS patients?
- A. CMV
  - B. Microsporidium
  - C. MAC
  - D. Cryptosporidium
  - E. Chlamydia



82. All of the following concerning *Giardia lamblia* are CORRECT EXCEPT:
- A. Predominantly water-born illness
  - B. Fecal-oral route in day care/custodial care situation
  - C. Cysts easily killed by chlorination
  - D. Animal reservoirs exist in beautiful places
  - E. Double filtration of water supply is effective in preventing spread
83. In food poisoning, diarrhea is mediated by a bacterial toxin in all EXCEPT;
- A. *Staphylococcus aureus*
  - B. *Clostridium perfringens*
  - C. *Bacillus cereus*
  - D. *Yersinia enterocolitica*
84. Diarrhea from entero-invasive bacteria is associated with all EXCEPT:
- A. Abdominal pain
  - B. Fever
  - C. 4 liters/day diarrhea
  - D. Fecal leucocytes
  - E. Tenesmus
85. Which virus that can cause acute hepatitis can only infect in the presence of the hepatitis B virus?
- A. HAV
  - B. HCV
  - C. HDV
  - D. HEV
  - E. CMV
  - F. EBV

86. Which of the following viruses is not associated with a chronic carrier condition?
- A. HBV
  - B. HCV
  - C. HDV
  - D. HEV
  - E. HGV
87. Hepatitis C is:
- A. A DNA virus
  - B. Usually eradicated with interferon therapy
  - C. A risk factor for severe acute Hepatitis A infection
  - D. Transmitted routinely by the fecal-oral route
  - E. An uncommon cause of cirrhosis

MATCHING ITEMS

In each of the following groups there are two lists. Mark on the answer sheet in the line corresponding to each question number in the lower list (88-100) the letter of the related item of the upper list.

DIRECTIONS: For questions 88 - 100 choose the regions of the upper gastrointestinal tract most strongly associated with each entity. Each answer may be used once, more than once, or not at all.

- A. Esophagus
- B. Cardia
- C. Gastric body and fundus
- D. Antrum
- E. Duodenum

- 88. Autoimmune disease
- 89. Gastrin secretion
- 90. Gastrin response
- 91. Brunner's glands

DIRECTIONS: Match the finding or illness numbered 92 - 95 with the most appropriate condition (A-E below).

- A. Gastroparesis
- B. Intestinal stasis
- C. Intestinal ulcer
- D. Angiodysplasias
- E. Transfer dysphagia

- 92. Slow release potassium chloride tablets
- 93. Bezoar
- 94. Chronic renal failure
- 95. Dermatomyositis

DIRECTIONS: Select the option (A-E below) which best fits the descriptions numbered 96-97.

- A. Esophagus
- B. Stomach
- C. Small intestine
- D. Colon
- E. Rectum

96. Most frequent site of obstruction due to Crohn's disease.

97. Most frequent site of obstruction due to volvulus

DIRECTIONS: Select the option (A-E below) which best fits the descriptions numbered 98-100.

- A. Mesenteric arterial emboli
- B. Mesenteric venous thrombosis
- C. Mesenteric arterial thrombosis
- D. Ischemia following aortic surgery
- E. Nonocclusive mesenteric ischemia

98. Presents with Bergan's triad (acute abdominal pain, spontaneous GI emptying; history of cardiac disease)

99. Due to low flow conditions, may be managed medically

100. Most patients lack predisposing conditions, high rate of rethrombosis

Some worthwhile normal laboratory values:

Serum

AST 0-60  
ALT 0-60  
ALK PHOS 0-125  
BILI 0.5-1.1  
ALBUMIN 3.5-5.0  
AMYLASE 25-115  
LIPASE 114-286  
PROTIME 10-12  
PLATELETS 150K-350K

Ascites :

WBC <250, mostly mononuclear  
ALBUMIN variable  
AMYLASE less than serum