NR511 Midterm Study Guide Worksheet

A 62-year-old woman presents to your clinic with a sudden right-sided headache that is worse in her right eye. She states that her vision seems blurred, and her right pupil is dilated and slow to react. The right conjunctiva is markedly injected, and the eyeball is firm. You screen her vision and find that she is 20/30 OS and 20/30 OD. She most likely has:

- Open-angle glaucoma (With open-angle glaucoma, the onset is more insidious)
- Angle-closure glaucoma (In angle-closure glaucoma, the patient presents with a sudden onset of symptoms as described in this case. This client has a visual deficit and pain as well as fullness of the affected eye. This is a medical emergency, and she should be referred immediately because, without intervention, blindness can occur within days)
- Herpetic conjunctivitis (Herpetic conjunctivitis is generally associated with a herpetic rash, and the pain is dull in character)
- Diabetic retinopathy (Diabetic retinopathy is a complication of diabetes that affects both eyes. It is caused by damage to the blood vessels of the light-sensitive tissue at the back of the eye (ie, the retina.

| Disease | Risk | Subjective Finding | Objective Findings | Diagnostics | Treatment |
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| **GI DISORDERS** | | | | | |
| Appendicitis | Risk: age 10-30; men twice as likely as women; diet low in fiber, high in fat and high in refined sugars and other carbs | Subjective: acute onset of mild to severe colicky, epigastric, or periumbilical pain; nausea/vomiting; fever | Objective: looks ill; diffuse tenderness with palpation of abdomen – tenderness over RLQ | Tests: CBC - mild to moderate leukocytosis; urinalysis – microscopic hematuria or pyuria; x-ray – fecalith, gas-filled appendix, small bowel ileus, deviation in bowel gas pattern, or loss of right iliopsoas shadow; US – to visualize inflamed appendix | 1st line: IV antibiotics, correcting fluid and electrolyte imbalances, bedrest, NPO, NG tube if indicated<br><br>2nd line: surgery |
| Celiac disease | Risk: family history, Down's syndrome, HLA-DQ2 or HLA-DQ8,<br>Turner's syndrome, or other genetic based autoimmune disease such as Type 1 DM and thyroiditis | Subjective: most are asymptomatic; may complain of diarrhea, weight loss, dyspepsia, and flatulence | Objective: exam may be normal; signs of malabsorption such as muscle wasting, pallor (anemia), reduced subcutaneous fat, ataxia, and peripheral neuropathy (Vitamin B12 deficiency) | Tests: serological testing for anti-tTG IgA antibodies; total IgA; nutritional deficiencies – hemoglobin, iron, folate, vitamin B12, calcium, and vitamin D | 1st line: strict gluten-free diet<br><br>2nd line: immunomodulating agents |
| Cholelithiasis - gallstones | Risk: > 25 y/o; most prevalent in American Indian women;<br><br>Cholesterol stones: | Subjective: symptoms vary, generalized GI complaints to intractable pain; indigestion, nausea, and vomiting – | Objective: if pain is severe patient may have involuntary guarding over the RUQ; positive Murphy's sign w/ palpation over the RUQ; | Tests: gold standard is abdominal ultrasound<br><br>During acute phase – mild WBC elevation to | 1st line for asymptomatic patients: avoid foods high in fat<br><br>2nd line:<br>Treatment of choice for acute |

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| | female, obesity, pregnancy, increased | especially after a | low grade fever; may have | 15,000/mL; serum transaminases elevated | cholecystitis: |

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| | age, drug-induced (oral contraceptives, clofibrates), cystic fibrosis, rapid weight loss, spinal cord injury, ileal disease with extensive resection, DM, sickle cell anemia<br><br>Pigmented stones: hemolytic diseases, increasing age, hyperalimentation, cirrhosis, biliary stasis, chronic biliary infections<br><br>Six F's: fat, female, forty, flatulent, fertile, and fat-intolerant | meal high in fat; as the inflammation progresses, the pain localizes over the RUQ or epigastrum; pain may refer to middle of back, infrascapular area, or R shoulder | diminished bowel sounds | 4x normal; aspartate aminotransferase and alanine aminotransferase can be elevated to 300 U/L; alkaline phosphatase is elevated to 2-4x normal levels; bilirubin as high as 4 mg/dL | hospitalization for rehydration w/ IV fluids, antibiotics, analgesics, GI rest, NG placement for persistent emesis; 2nd or 2rd generation cephalosporin is started<br><br>Once stable the patient will undergo surgery for a cholecystectomy<br><br>If considered a poor surgical risk patients can be treated w/ oral ingestion of ursodeoxycholic (ursodoil) or direct dissoluction by percutaneous instillation of methyl-tertiary-butyl ether; lithotriopsy |
| Crohn's disease | Risk: genetic predisposition | Subjective: abd cramping and tenderness, fever, anorexia, weight loss, spasm, flatulence and RLQ pain or mass; increase in symptoms during stress or emotional upset or after meals consisting of fatty, spicy foods, | Objective:<br>1. Inflammation, RLQ pain, and tendnerness – presenting like appendicitis<br>2. Obstruction, fibrosis, and stenotic changes within the bowel causing obstruction associated w/ severe<br><br>colic, abdominal | Tests: colonoscopy - reveals ulcers that are either minor erosions or deep longitudinal fissures, cobblestone appearance | 1st line: nutrition counseling – avoid caffeine, raw fruits, vegetables, seeds, and nuts, and foods high in fiber (whole grain bread and cereal); bland diet that is high in calories and protein yet low in fat<br>1st line medication: oral prednisone<br><br>2nd line: mesalamine (Asacol) and |

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| | | or milk; stools are soft or semi-liquid; blood in stools; steatorrhea; periods of acute exacerbation alternating with complete remission | distension, constipation and vomiting<br>3. Diffuse jejunoileitis involving the jejunum and ileum and characterized by both inflammation and obstruction<br>4. Abdominal fistulas and abscesses causing fever, generalized wasting, and abdominal masses | | sulfasalazine (Azulfidine) |
| Diverticulitis | Risk: low-fiber and high fat diet; chronic constipation and straining; irregular bowel contractions; weakness of bowel muscle brought on by aging | Subjective: LLQ pain; pain may be worse after eating, pain is sometimes relived with BM or passing flatus; alternating bowel patterns between constipation and diarrhea | Objective: tenderness in the LLQ; firm-fixed mass may be identified in the area of the diverticula; hypoactive bowel sounds initially, but hyperactive if an obstructive process has developed | Tests: abdominal x-rays – reveal free air, ileus, or obstruction; a barium enema – outlines the lumen of the bowel clearly defining diverticula | 1st line: high fiber diet or daily fiber supplementation with psyllium<br>Mild symptoms: rest clear liquid diet<br><br>2nd line: hospitalization for IV antibiotics and hydration, analgesia, bowel rest, and possible NG tube |
| GERD | Risk: overweight, BMI over 25; increases w/ age then decreases after the age of 69; ingestion of foods/pharmacological agents that lower the | Subjective: mild to severe heartburn, regurgitation, water brash, dysphagia, sour taste in the mouth in the morning, belching, | Objective: exam in normal; possible stool positive for occult blood due to microhemorrhages in the irritated esophageal epithelium | Tests:<br>Diagnosis is made by history alone<br><br>If unclear diagnosis: EGD | 1st line for mild symptoms: lifestyle modifications – weight loss, elevating HOB to 6-8 inches, avoid eating meals 2-3 hours before bedtime, avoid certain foods such as chocolate, alcohol, caffeine, acidic or spicy foods; smoking |

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| | lower esophageal sphincter pressure | coughing, hoarseness, chest pain | | | cessation<br><br>2nd line for mild to moderate symptoms: 4-8 week course of PPI once daily 30 minutes before breakfast<br>-Omeprazole, Lansoprazole, Pantoprazole |
| Giardia lamblia – a protozoan that attaches to the mucosa of the small bowel | Risk: hypogamma-globulinemia<br><br>Transmitted via oral-anal intercourse and is a common cause of traveler's diarrhea and diarrhea in children who attend day-care cetners | Subjective: range from nonspecific complaints of bloating, flatulence, nausea, and watery noninflammatory diarrhea to chronic diarrhea with weight loss, anorexia, and malabsorption | Objective: examination of stool | Tests: immunofluorescent antibody tests and diagnostic enzyme-linked immunsorbent assay (ELISA) tests<br><br>Duodenal aspirate or small bowel biopsy<br><br>Stool exam is positive for trophozoites in about 50% of cases | 1st line:<br>quinacrine hydrochloride (Atabrine) 100 mg three times daily after meals for 5-7 days<br>OR<br>metronidazole (Flagyl) 250 mg three times daily for 5-7 days |
| H. Pylori Infection | Risk: increases with age >60, | Subjective: burning or gnawing (hunger) sensation or pain in the epigastrium | Objective: PE is not useful | Tests:<br>Fecal antigen assay<br>Urea breath test Biopsy with histological examination<br>Serological antibody | 1st line: PPI + clarithromycin + amoxicillin (or metroniadozle if penicillin allergy) twice a day for 14 days<br><br>2nd line: PPI + bismuth subsalicylate + tetracycline + metronidazole |
| Irritable bowel syndrome | Risk: women are affected more than men; late adolescents | Subjective: abdominal pain and altered bowel habits | Objective: PE is usually normal, may have tenderness in LLQ and | Tests: none, diagnosed based off of history | 1st line: elimination of certain foods from diet (caffeine, legumes, artificial sweeteners); increase |

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| | early adulthood, rarely seen in patients >50 | (both diarrhea and constipation) OR painless diarrhea; abdominal pain (sharp, burning, or dull ache) with LLQ most affected; pain is caused by eating or stress and relieved with a BM or flatus; urgency to defecate; often have an associated psychiatric diagnosis | over umbilicus or epigastric area | | dietary fiber to 20-30 grams per day OR bulk-producing agents for those who do not want to change their diet; drink at least eight, 8-ounce glass of water a day; for constipation practice bowel training<br><br>2nd line for moderate to severe symptoms:<br>Severe diarrhea: loperamide (Imodium)<br>2mg or diphenoxylate (Lomitol) 2.5-5.0mg<br>every 6 hours<br><br>Nonresponsive constipation: intermittent<br>use of lactulose or magnesium hydroxide |
| Peptic ulcer disease | Risk: duodenal ulcers - age 30-55, gastric ulcers – age 55-70; infection w/ H.pylori and chronic ingestion of aspirin and other NSAIDs; cigarette smoking, COPD, cirrhosis, renal failure, and renal transplant | Subjective: burning or gnawing (hunger) sensation or pain (dyspepsia) in the epigastrium, which is often relieved by food or antacids; alternating pattern of pain: pain tends to cluster and last for minutes, with periods of no symptoms | Objective: PE is not useful; duodenal ulcers – epigastric tenderness 2.5cm to the R of the midline | Tests: diagnostic standard is EGD | 1st line:<br>PPIs (drug of choice): omeprazole, lansoprazole, pantoprazole<br><br>H2 receptor antagonist: ranitidine,<br>famotidine, cimetidine<br><br>Sucralfate<br><br>MIstoprostol (Cytotec): used to prevent<br>ulcer formation in patients |

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| Pancreatitis – results from the release of pancreatic enzymes | Risk: biliary tract disease (passing of a gallstone – the stone leaves the gallbladder and blocks the opening from the pancreas to the first part of the SI (duodenum); excessive alcohol intake | Subjective: abrupt onset of deep epigastric pain that persists for hours to days and radiate straight through to the back; pain is aggravated by cough, lying supine, and improves when seated and leaning forward; patient is acutely ill w/ intractable n/v; may report a history of ingestion of alcohol or bug meal before onset of symptoms or mild biliary colic | Objective: severe abdominal tenderness over the epigastric area w/ possible guarding and milder pain in the lower abdomen; tachycardic (100-140 beats/min), rapid shallow respiration, inspiratory effort is poor, BP may be high secondary to pain or low if shock is imminent, temp may initially be normal but increases to (100.4-102.2) within a few hours | Tests: diagnosis is made based off of the presence of abdominal pain, elevated serum amylase and/or lipase levels, and imaging findings<br><br>Gold standard for diagnosis: elevated serum amylase (up to 3x normal value); although w/ alcoholic pancreatitis the serum amylase levels may be normal<br><br>WBC: between 12,000 and 20,000 cells/mL<br>Hct: can be as high as 50-55%<br>Calcium levels indicate severity<br><br>Abdominal US can detect possible causes<br><br>CT can help confirm diagnosis | 1st line:<br>Mild acute: usually resolves spontaneously within a few days – patient should fast until the symptoms have subsided<br><br>2nd line: hospitalization for parenteral fluids, pain control w/ meperidone (Demorol), NPO, and NG tube<br><br>Pancreatitis caused by cholelithiasis: biliary decompression w/ ERCP; cholecystectomy |
| Salmonella | Risk: ingestion of chicken, egg and livestock that are infected w/ salmonella | Subjective: 2-5 days of symptoms, onset is 8-48 hours after ingestion; peak incidence is summer | Objective: | Tests: stool culture | 1st line: no treatment is necessary unless associated w/ fever and systemic involvement<br><br>2nd line: |

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| | Stress importance of proper handling of food, thorough cooking, and good handwashing | and fall; symptoms begin with n/v, followed by colicky abdominal pain and bloody or mucoid diarrhea; enteric fever, bacteremia, headache, and myalgias; stool may be foul smelling | | | Trimethoprim-sulfamethoxazole (Bactrim DS)<br>OR<br>Norfloxacin<br>400mg OR<br>Ofloxacin 400mg PO twice daily for 7-10 days |
| Shigella | Risk: poor hygiene and overcrowing<br><br>Spread via the fecal-oral route | Subjective: initially - watery diarrhea and high fever; later – abidminal cramps, tenesmus, urgency, frequent small stools with blood and mucus | Objective: low grade fever | Tests: isolation of organism in rectal or stool swab | 1st line: Bactrim DS twice daily for 3 days if infection was acquired in the U.S. |
| Ulcerative Colitis | Risk: genetic predisposition | Subjective:<br>Subjective:<br>mild: four or fewer loose BM per day w/ abdominal cramps that are relieved w/ defecation, small amounts of blood and mucus in the stool<br>moderate: 4-6 loose stools a day containing more blood and mucus, | Objective: anal fissures, perianal fissures, and edematous, pale skin tags | Tests: diagnosis made with history and PE and sigmoidoscopy<br><br>Colonoscopy to differentiate UC from CD | 1st line: nutrition counseling – avoid caffeine, raw fruits, vegetables, seeds, and nuts, and foods high in fiber (whole grain bread and cereal); bland diet that is high in calories and protein yet low in fat<br><br>Mild to moderate distal colitis (confined to the rectum or rectosigmoid):<br>1st line medication: topical mesalamine |

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| | | plus systemic symptoms such as tachycardia, mild fever, and weight loss<br>severe: 6-10 blood BMs per day, abdominal pain and tenderness and symptoms of anemia, hypovolemia, and impaired nutrition | | | Mild to moderate colitis (disease extending above the sigmoid colon):<br>1st line: Oral 5-ASA agent (mesalamine or balsalazide) with mesalamine suppository or enema at bedtime<br><br>2nd line: 5-ASA + oral corticosteroid (budesonide MMX or prednisone)<br><br>Moderate to severe:<br>1st line: oral corticosteroid (prednisone or methylprednisolone<br><br>2nd line: Anti-TNF agents (infliximab, adalimumab, and golimumab)<br><br>*after remission has been achieved patient should be placed on oral mesalamine<br><br>Severe and Fulminant Colitis:<br>Hospitalization with possible surgical intervention |
| Viral gastroenteritis: caused | Risk: food or | Subjective: vomiting | Objective: | Tests: | 1st line: fluids and electrolyte |