بسم الله الرحمن الرحيم

MICROBIOLOGY

﴿ وَإِن تَتَوَلَّوْا يَسْتَبْدِلْ قَوْمًا غَيْرَكُمْ ثُمَّ لَا يَكُونُوا أَمْثَالَكُم ﴾

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سبحان الله وبحمده سبحان الله العظيم

MID | Lecture 1-5

Past Papers

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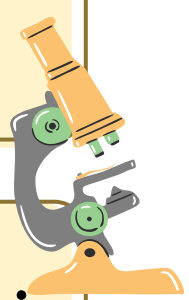


Click on quizizz icon to open the file as interactive format

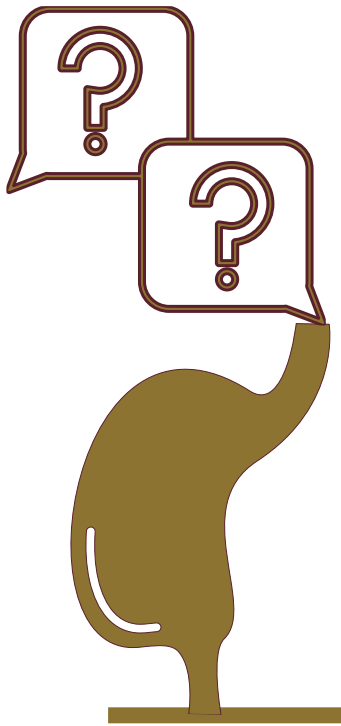
Before each question is mentioned whether its past, test bank or from the textbooks

P -> Past

T -> Test bank

B -> Textbook

If there are any mistakes, plz send it to the form at the end



Past Papers

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We’re going to start with “Viral gastroenteritis” then we’ll go for Dr. Nader’s lectures

Q1: Which of the following is true of rotaviruses gastroenteritis?

A. Has a high mortality rate even with hydration therapy.
B. Presence of antibodies against rotaviruses is rare worldwide.
C. Most infections occur in the elderly.
D. Causes a distinct set of clinical symptoms that is different from other viral gastroenteritis.
E. Infections in neonates often cause very few or no symptoms at all.

Ans: E

Q2: The following histological changes commonly take place following viral Gastroenteritis except:

A. Shortening of microvilli.
B. Death of enterocytes in the villous epithelium.
C. Immune cell infiltration of lamina propria.
D. Blunting of villi.
E. Atrophy and shortening of crypts.

Ans: E

Q3: A clinical case; it was stated that the patient has non-bloody diarrhea, and he is vomiting, he is unable to intake hard food, but he can keep soft food and water, the best management is:

A. Stay at home & rehydration.
B. Antibiotics
C. NSAIDs as typical treatment
D. Corticosteroids
E. All the above

Ans: A

Q4: Most common cause of gastroenteritis in children:

A. Norovirus
B. Rotavirus
C. Cytomegaly virus
D. Adenovirus
E. Hepatitis b virus

Ans: B

Q5: All are considered a chemical barrier EXCEPT:

A. Skin
B. Acidity of stomach
C. Antimicrobial proteins
D. Complement
E. B+C

Ans: A

Q6: What kind of cells is utilized by GI pathogens as a point of entry?

A. M cells
B. Goblet cells
C. Paneth cells
D. Macrophages
E. None of the above

Ans: A

Q7: What is the term used to describe the community of bacteria that live in your digestive tract?

A. Immunoglobulin
B. Intestinal colony
C. GI tract microbial colony
D. Human gut microbiome
E. Mammalian gut microbiome

Ans: D

Q8: The M (microfold) cells characterized by all the following EXCEPT:

A. It is specialized epithelial cells located at the surface of ilium and in peyers patches
B. Its cytoplasm contains lymphocytes and macrophages cells
C. They release and store the lysozyme enzyme
D. Their main function is to engulf foreign bodies at the surface
E. Its basement membrane is discontinuous

Ans: C

Q9: Which of the following diseases affects normal microbiota of the gut?

A. Obesity
B. Type I diabetes
C. Atopic diseases
D. A+B
E. All the above

Ans: E

Q10: What are prebiotics?

A. Live bacteria
B. Dead bacteria
C. Diary pathogens
D. Bacterial nutrition
E. Microbes

Ans: D

Q11: Heat-labile toxin of ETEC acts by which of the following mechanisms?

A) Attachment and effacement
B) Ribosomal dysfunction
C) None of the above
D) Activation of adenylyl cyclase
E) Aggregative adherence

Ans: D

Q12: Intestinal infection with which of the following organisms should NOT be treated with antibiotics?

A) Salmonella typhi
B) Clostridium difficile
C) Escherichia coli O157:H7
D) Shigella sonnei
E) Vibrio cholerae

Ans: C

Q13: Which of the following bacterial agents has the lowest infective dose for producing gastrointestinal disease in the human host?

A) Enteropathogenic Escherichia coli
B) Enterotoxigenic Escherichia coli
C) Vibrio cholerae
D) Salmonella (nontyphoid serotypes)
E) Shigella flexneri

Ans: E

Q14: Primary feces inhabitants shortly after birth are:

A) Clostridium botulinum
B) Clostridium tetani
C) Bifidobacterium
D) Clostridium perfringens
E) Clostridium difficile

Ans: C

Q15: Heat-stable toxin of ETEC acts by which of the following mechanisms?

A) Activates adenylyl cyclase
B) Ribosomal dysfunction
C) Activates guanylyl cyclase
D) Attachment and effacement
E) Aggregative adherence

Ans: C

Q16: What is the identity of the organism forming black colonies (H2S production) on S-S agar?

A) Staphylococcus species
B) Escherichia coli
C) Shigella species
D) Streptococcus pyogenes
E) Salmonella species

Ans: E

Q17: An HIV-positive man recently traveled to the Caribbean. Three weeks later, he has persistent watery diarrhea and weight loss. Most likely cause?

A) Enteroinvasive Escherichia coli
B) Salmonella typhi
C) Enteropathogenic Escherichia coli
D) Shigella flexneri
E) Enteroaggregative Escherichia coli

Ans: E

Q18: An outbreak of watery diarrhea occurred in a children center. Stool is positive for fecal leukocytes but not heme-positive. Which is the agent?

A) Salmonella typhi
B) Enteropathogenic E. coli
C) Shigella flexneri
D) E. coli O157:H7
E) Bacillus cereus

Ans: B

Q19: Which food item is most frequently associated with emetic type food poisoning by Bacillus cereus?

A) Rice and cereals
B) Honey
C) Lettuce and spinach
D) Meat dishes and sauces
E) Canned alkaline foods

Ans:A

Q20: A woman eats farm eggs, and 12 hours later has nausea, vomiting, then descending flaccid paralysis needing ventilation. Diagnosis?

A) Viral gastroenteritis
B) Botulism
C) Salmonella infection
D) Shigellosis
E) Campylobacter infection

Ans:B

Q21: Which of the following causes pseudomembranous colitis?

A) Clostridium difficile
B) Shigella
C) Salmonella
D) Bacillus cereus
E) All of the above

Ans: A

Q22: Which is the most frequent vehicle for infant botulism?

A) Rice and cereals
B) Honey
C) Lettuce and spinach
D) Meat dishes and sauces
E) Canned foods

Ans:B

Q23: The test of choice for confirmation of botulism is:

A) ELISA
B) PCR
C) Mouse lethality bioassay
D) Gram stain
E) Nagler reaction

Ans:C

Q24:Regarding Enterobacteriaceae, which is most accurate?

A) All are part of normal microbiota
B) All have endotoxin
C) All ferment lactose
D) All are strict anaerobes
E) All produce enterotoxin

Ans:B

Q25: Which of the following organisms is oxidase positive?

A) Campylobacter jejuni
B) E. coli
C) Shigella
D) Salmonella
E) Clostridium difficile

Ans:A

Q26: About typhoid fever (Enteric fever), which one is wrong?

A) Highly contagious
B) Vi antigen presence
C) Carriers more important than cases
D) Bacteremia is characteristic
E) Zoonotic disease

Ans: E

Q27: What is used for diagnosis of typhoid fever during first week?

A) Stool culture
B) Urine culture
C) Blood culture
D) Sputum culture
E) Widal test

Ans:C

Q28: Food poisoning from Bacillus cereus produces two syndromes. Emetic toxin is:

A) Heat-labile toxin
B) Hemolysin
C) Enterotoxin A
D) Heat-stable toxin
E) Neurotoxin

Ans: D

Q29: Which Clostridium species is associated with gas gangrene?

A) Clostridium difficile
B) Clostridium tetani
C) Clostridium perfringens
D) Clostridium botulinum
E) Clostridium septicum

Ans: C

Q30: Which condition is associated with Shiga toxin-producing E. coli (STEC/EHEC)?

A) Hemolytic uremic syndrome (HUS)
B) Non-bloody diarrhea only
C) Necrotizing fasciitis
D) Botulism
E) Pseudomembranous colitis

Ans: A

Q31: A patient develops diarrhea after taking antibiotics, which of the following is the causative agent?

A) Salmonella typhi
B) Clostridium difficile
C) Escherichia coli O157:H7
D) Shigella sonnei
E) Vibrio cholerae

Ans:B

Q32: Which organism's food poisoning is associated with consumption of improperly stored fried rice?

A) Salmonella typhi
B) Clostridium botulinum
C) E. coli O157:H7
D) Bacillus cereus
E) Vibrio cholerae

Ans: D

Q33: Which bacteria produce heat-stable and heat-labile toxins?

A) EPEC
B) EHEC
C) ETEC
D) Shigella
E) Klebsiella

Ans: C

Q34: Which organism produces a potent neurotoxin that causes flaccid paralysis?

A) Clostridium perfringens
B) Clostridium tetani
C) Clostridium botulinum
D) Escherichia coli
E) Bacillus cereus

Ans: C

Q35: Which diagnostic test is most sensitive for detecting Shiga toxin–producing E. coli?

A) Culture on sorbitol MacConkey
B) Toxin detection by immunoassay
C) Cytotoxin assay on Vero cells
D) PCR for Shiga toxin genes
E) None of the above

Ans: D

Q36: Clostridium perfringens causes all the following EXCEPT:

A) Food poisoning
B) Gas gangrene
C) Pseudomembranous colitis
D) Stormy fermentation in milk media
E) Alpha-toxin mediated hemolysis

Ans: C

Q37: Which of the following about Enterobacteriaceae is most accurate?

A) All members are part of normal microbiota
B) All have endotoxin
C) All are anaerobic
D) All ferment lactose
E) All produce enterotoxin

Ans: B

Q38: Which organism is contraindicated for antimicrobial therapy initiation?

A) Shiga toxin-producing E. coli (O157:H7)
B) Enteropathogenic E. coli
C) Clostridium difficile
D) Enteroinvasive E. coli
E) None of the above

Ans: A

Q39: A 70-year-old man hospitalized for infection treated with clindamycin later develops mucoid green stools with yellow plaques seen on colonoscopy. Most likely cause?

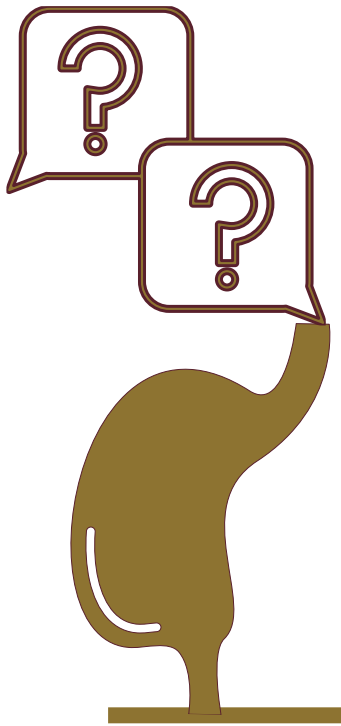
A) C. difficile infection
B) Bacillus cereus infection
C) Clostridium perfringens infection
D) Salmonella typhi infection
E) Shigella infection

Ans: A

Q40: A man came from Africa and was diagnosed with Salmonella typhi. The most common route of infection?

A) Touching contaminated surfaces
B) Uncooked meat
C) Contaminated poultry
D) Contact with goats
E) Food preparer with low hygiene

Ans: E



Test bank

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Q1: What’s the typical incubation period of Norovirus?

A. 1-3 Days
B. 3-7 hours
C. 24 hours
D. 5-10 days
E. 2 weeks

Ans: C

Q2: Which of the following is a key preventive measure specifically associated with controlling norovirus outbreaks?

A. Mass vaccination of school outbreaks
B. Eradication of mosquitos
C. Exclusion of ill food handlers and disinfection of fomites
D. Prophylactic antibiotic use in travelers
E. National vaccination program

Ans: C

Q3: What is the most appropriate treatment approach for both norovirus and rotavirus?

A. Broad spectrum antibiotics
B. Oral rehydration, IV fluids if severe
C. Antiviral drugs
D. High dose steroids
E. None of the following

Ans: B

Q4: What type of stool is typically seen in both Norovirus and Rotavirus infections?

A. Bloody and mucus-filled
B. Watery, with no blood or leukocytes
C. Greasy and foul-smelling
D. Constipated pellets
E. Normal

Ans: B

Q5: Which diagnostic technique is commonly used for detecting both norovirus and rotavirus in stool samples?

A. Gram stain
B. Enzyme immunoassays (EIA)
C. Acid-fast stain
D. Blood culture
E. Chocolate agar

Ans: B

Q6: Which of the following is not a typical symptom of norovirus gastroenteritis?

A. Nausea
B. Vomiting
C. Bloody diarrhea
D. Abdominal cramps
E. All are symptoms of norovirus gastroenteritis

Ans: C

Q7: Which bacteria are most associated with an increased proportion in obesity?

A. Proteobacteria
B. Firmicutes
C. Actinobacteria
D. Bacteroidetes
E. Cyanobacteria

Ans: B

Q8: Which of the following is most associated with pseudomembranous colitis after antibiotic use?

A. Escherichia coli
B. Clostridium difficile
C. Bacteroides fragilis
D. Lactobacillus species
E. Staphylococcus aureus

Ans: B

Q9: Which of the following is true about Gut-associated lymphoid tissue (GALT)?

A. It is mainly composed of neutrophils
B. Peyer’s patches are covered by goblet cells
C. Mesenteric lymph nodes drain lymph from the gut
D. It has very few lymphocytes compared to other organs
E. It is in the subcutaneous tissue

Ans: C

Q10: Which of following best describes microbial antagonism?

A. Microbes that directly infect epithelial cells
B. Microbes that help pathogens attach to mucosal surfaces
C. Microbes competing with pathogens for nutrients and space
D. Microbes that produce toxins only under immune suppression
E. Microbes that prevent immune tolerance development

Ans: C

Q11: Which mucosal structure is primarily responsible for trapping microbes and holding secretory IgA?

A. Mucus layer
B. Peyer’s patch
C. Paneth cells
D. Goblet cells
E. Enterocytes

Ans: A

Q12: Which of the following statements about microbiota colonization after birth is correct?

A. The intestines are heavily colonized before birth
B. Vaginally delivered babies acquire mainly skin flora
C. C-section babies acquire mainly vaginal flora
D. Colonization starts immediately after birth and stabilizes later
E. Microbiota in infants are dominated by Bacteroidetes initially

Ans: D

Q13: The majority of intraepithelial lymphocytes (IELs) in the small intestines are?

A. B cells expressing IgA
B. CD4+ T helper cells
C. CD8+ T cells
D. NK cells
E. M cells

Ans: C

Q14: What is the function of the glycan chains in mucins secreted by goblet cells?

A. Decrease viscosity of mucus
B. Allow epithelial penetration
C. Trap microbes and hold immune molecules
D. Digest pathogens directly
E. Facilitate IgG secretion

Ans: C

Q15: What is the process called by which M cells transport antigens across the epithelium?

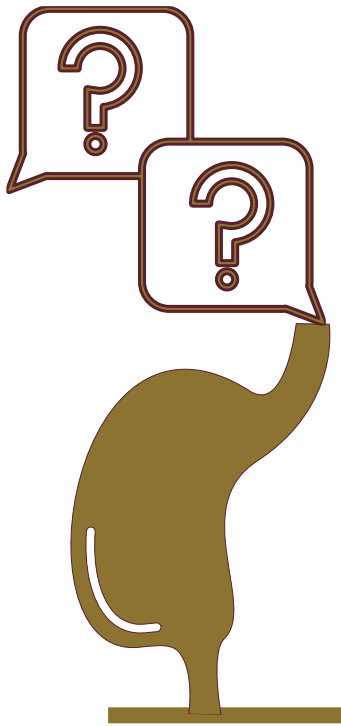
A. Phagocytosis
B. Exocytosis
C. Endocytosis
D. Transcytosis
E. Pinocytosis

Ans: D

Q16: Which bacterial protein binds to GP2 on M cells to facilitate bacterial entry?

A. Flagellin
B. Exotoxin
C. LPS
D. FimH
E. Pilin

Ans: D



Textbook

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Q1: The immunoglobulin class most frequently responsible for inhibition of bacteria on mucosal surfaces is?

A. IgG
B. IgM
C. IgA
D. IgE
E. IgD

Ans: C

Q2: Antimicrobial therapy can decrease the amount of susceptible bowel flora and allow proliferation of relatively resistant colonic bacteria. Which one of the following species can proliferate and produce a toxin that causes diarrhea??

A. Enterococcus species
B. S epidermidis
C. Pseudomonas aeruginosa
D. Clostridium difficile
E. B fragilis

Ans: D

For any feedback, scan the code or click on

Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1	15	A	C
V1 → V2			