

# *Microbiology gi*

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- *Corrected by Islam alqaisi & saba Al smadi*

# *Lecture 1*

اللهم صلّ وسلّم وبارك على سيّد الخلق سيّدنا محمد

- *All are considered a chemical barrier EXCEPT:*
  - *A. Skin*
  - *B. Acidity of stomach*
  - *C. Antimicrobial proteins*
  - *D. Complement*
  - *E. B+C*
- 
- *Answer : A*

- *Kind of cells that are 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*
- 
- *Answer: A*

- *The term is 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*
- 
- *Answer: D*

- The *M (microfold) cells* characterized by all of the following EXCEPT:
  - A. It is specialized epithelial cells located at the surface of ileum and in Peyer's 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
- 
- Answer: C

- *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 of the above*
- 
- *Answer: E*

- *Prebiotics are:*
- *A. Live bacteria*
- *B. Dead bacteria*
- *C. Dairy pathogens*
- *D. Bacterial nutrition*
- *E. Microbes*
  
- *Answer: D*



# *Lecture 2*

- *The primary faces inhabitants shortly after birth are:*
- *A. Cl.difficil*
- *B. Cl.tetani*
- *C. Cl.botulinium*
- *D. Cl. Perfringens*
- *E. Bifidobacterium*
  
- *Answer: E*

- *The virulence factor associated with B. cereus is:*
- *A. Edema toxin*
- *B. Lethal toxin*
- *C. Protective antigen*
- *D. Enterotoxin*
- *E. Theta toxin*
  
- *Answer: D*

- Choose the *INCORRECT STATEMENT*
  - A. *Bacteroids are the primary faeces inhabitants shortly after birth*
  - B. *skin, oral mucosa, conjunctiva , and GIT are constantly colonized by microbial communities*
  - C. *Bacterial density increases in the distal small intestine, and in the large intestine increases further more*
  - D. *two main phyla in intestine, Firmicutes and Bacteroids*
  - E. *the microbiota dysbiosis have been found to increase susceptibility to a various types of diseases*
- 
- *Answer: A*

- *Which food item is most frequently associated with -the emetic type- of Bacillus cereus food poisoning:*
- *A. Rice and other cereals*
- *B. Honey*
- *C. Lettuce, spinach*
- *D. Meat dishes and sauces*
- *E. Canned alkaline foods*
  
- *Answer: A*

- Which of the following is *wrongly* matched:
  - A. *B. cereus*- food poisoning
  - B. *Cl. botulinum*- rigid paralysis
  - C. *Cl. perfringens*- gas gangrene
  - D. *Cl. perfringens* -food poisoning
  - E. *Cl. difficile* -pseudomembranous colitis
- 
- Answer: B

- *The most frequent vehicle of infection for infant botulism:*
  - *A. Rice and other cereals*
  - *B. Honey*
  - *C. Lettuce, spinach*
  - *D. Meat dishes and sauces*
  - *E. Canned alkaline foods*
- 
- *Answer: B*

- *The test of choice for the confirmation of botulism is:*
- *A. ELISA*
- *B. PCR*
- *C. Mouse lethality bioassay*
- *D. Gram stain*
- *E. Nagler test*
  
- *Answer: C*



- Which of the following causes *pseudomembranous colitis*:
  - A. *Clostridium difficile*
  - B. *Shigella*
  - C. *Salmonella*
  - D. *Bacillus cereus*
  - E. All of the above
- 
- Answer: A

- *Infection with clostridium difficile is frequently associated with over use of one of the following:*
  - *A. isoniazid*
  - *B. Penicillin G*
  - *C. Clindamycin*
  - *D. Vancomycin*
  - *E. Fluconazol*
- 
- *Answer: C*

- *A 70-year-old man is hospitalized for an infection and treated with clindamycin. The patient improves and returns to his nursing home. Two weeks later he is rushed to the emergency room with fever and loose, mucoid green stools. The diarrhea is voluminous, and he is having severe abdominal pain. Sigmoidoscopy of his colon reveals yellow-white plaques. What is the most likely event/factor that contributed to this patient's current illness?*
- *A. Drinking unpasteurized milk*
- *B. Eating contaminated cold cuts*
- *C. Advanced age*
- *D. Administration of antibiotics*
- *E. Eating food containing high amounts of fat*
  
- *Answer: D*

- *A patient develops diarrhea after taking antibiotics, which of the following is the causative agent:*
- *Answer: C.difficile*
  
- *Most common cause of food poisoning:*
- *Answer: Bacillus cereus*

- *Bacteria that produce toxins that travel along the CNS axons:*
  - *A. Clostridium botulinum*
  - *B. Clostridium perferngis*
  - *C. Clostridium tetanus*
  - *D. Clostridium difficile*
  - *E. Clostridium infantum*
- 
- *Answer: A*

- *Four hours after eating reheated rice at a local restaurant, a 24-year- old woman and her husband both developed excessive vomiting and mild diarrhea. Which of the following organisms is the most likely to be involved:*
  - *A. Salmonella typhi*
  - *B. Clostridium botulinum*
  - *C. E.coli*
  - *D. Clostridium difficile*
  - *E. Bacillus cereus*
- 
- *Answer: E*

- *Wrong about clostridium botulism infections:*
- *A. C. botulism is Gram positive Aerobic motile spore forming rod shaped bacterium that is widely distributed environmentally*
- *B. C. botulism produces toxin in the GIT that is absorbed into the blood stream and binds irreversibly to the presynaptic nerve ending*
- *C. there are seven types of botulinum toxin designated A-G with types A,B and E being responsible for most human disease.*
- *D. in food borne botulism the toxin is performed in food typically canned goods or smoked fish or meat and ingested with the food*
- *E. the mouse lethality assay is the standard test used to detect botulinum toxin in serum , foodstuffs and stool specimens*

- *Answer: A*

- *Which of the following is a gram-positive rod that releases an exotoxin that causes flaccid paralysis:*
  - *A. Escherichia coli*
  - *B. Bacillus anthracis*
  - *C. Streptococcus pneumonia*
  - *D. Clostridium tetani*
  - *E. Clostridium botulinum*
- 
- *Answer: E*



# *Lecture 3*

- *Regarding the members of the family **Enterobacteriaceae**, which one of the following is the most accurate:*
  - *A. All members of the family are part of the normal microbiota*
  - *B. All members of the family have endotoxin*
  - *C. All members of the family are anaerobic*
  - *D. All members of the family ferment lactose*
  - *E. All members of the family produce enterotoxin*
- 
- *Answer: B*

- *Which of the following produce heat-stable and heat-labile enterotoxin:*
- *A. ETEC*
- *B. EPEC*
- *C. EHEC*
- *D. Shigella*
- *E. None of the above*
  
- *Answer: A*

- *A 7-year-old child is brought to the emergency room with hemolytic uremic syndrome. Which one of the following bacteria would most likely be isolated from a stool specimen:*
  - *A. Shigella dysentery*
  - *B. Salmonella typhi*
  - *C. Enterotoxigenic E.coli*
  - *D. Staphylococcus aureus*
  - *E. Enterobacter*
- 
- *Answer: A*

- *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*
- 
- *Answer: E*

- The most common cause of *hemolytic uremic syndrome( HUS )* is:
  - A. EAEC
  - B. EPEC
  - C. 0157:NM
  - D. ETEC
  - E. 0157:H7
- 
- Answer: E

- *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*
  - *D. Aggregative adherence*
- 
- *Answer: D*

- *Intestinal infection with which of the following organisms should not be treated with antibiotics:*
  - *A. Salmonella typhi*
  - *B. Clostridium difficile*
  - *C. Escherichia coli 0157:H7*
  - *D. Shigella sonnei*
  - *E. Vibrio cholera*
- 
- *Answer: C*



- *Which of the following are incorrectly matched:*
  - *A. Hamburger-Escherichia coli 0157:H7*
  - *B. Chickens and turkeys-Salmonella enteritidis*
  - *C. Toilet seat and door handles Shigellae*
  - *D. Cooked rice-Bacillus cereus*
  - *E. Honey -Clostridium difficile*
- 
- *Answer: E*

- *Which of the following test methods is the least sensitive procedure for diagnosis of colitis caused by Shiga toxin–producing Escherichia coli:*
  - *A. Culture on sorbitol MacConkey agar*
  - *B. Toxin testing using an enzyme immunoassay*
  - *C. Cell culture cytotoxin assay using Vero cells*
  - *D. Polymerase chain reaction for detection of the genes that encode Shiga toxin*
  - *E. None of the above is a good method for diagnosis*
- 
- *Answer: A*

- *An HIV-positive man recently travelled to the Caribbean for a 2-week vacation. He developed acute watery diarrhea and abdominal pain without fever during the second week of his vacation. Three weeks later, he is seen in clinic for persistent symptoms, and he is concerned because he is beginning to lose weight. Given this history, you suspect:*
  - *A. Enteroinvasive Escherichia coli*
  - *B. Salmonella typhi*
  - *C. Enteropathogenic Escherichia coli*
  - *D. Shigella flexneri*
  - *E. Enteroaggregative Escherichia coli*
  
- *Answer: E*

- *An outbreak of watery diarrhea occurring in a center housing young children awaiting foster care is investigated by the health department. The stool is positive for fecal leukocytes but is not heme-positive. The etiologic agent is isolated on MacConkey agar. Which of the following is the most likely etiologic agent:*
  - *A. Salmonella typhi*
  - *B. EPEC*
  - *C. Shigella flexneri*
  - *D. Escherichia coli 0157:H7*
  - *E. Bacillus cereus*
  
- *Answer: B*

- *What rapid test commonly used on Gram negative rods rules out Enterobacteriaceae if positive:*
- *Answer: Oxidase*
  
- *Which of the following is used in the treatment of traveler's diarrhea*
- *Answer: Bismuth subsalicylate*

# *Lecture 4*

- *What Is the identity of the organism on S-S agar with forming Black spots (H<sub>2</sub>S production) of the colonies:*
  - *A. Staphylococcus Spp*
  - *B. E.coli*
  - *C. Shigella*
  - *D. Streptococcus pyogenes*
  - *E. Salmonella*
- 
- *Answer: E*

- *Clinical case/ Salmonella typhi is caused by:*
- *Answer: A food preparer with bad personal hygiene*

- *Regarding Salmonella, it is:*
- *Answer: H<sub>2</sub>S positive, Urease negative, Citrate positive, Indol negative.*



- *Which of the following is Oxidase positive and grows on CIN agar with gives bull eye appearance:*
  - *A. campylobacter jejuni*
  - *B. aeromonas hydrophilic*
  - *C. yersinia*
  - *D. E.coli*
  - *E. C.difficle*
- 
- *Answer: C*

- *About Enteric Fever-Typhoid Fever which one is wrong:*
  - *A. Is highly contagious*
  - *B. Zoonotic disease*
  - *C. Carriers are a more important source of contamination*
  - *D. Bacteraemia*
  - *E. Has the capsular Vi antigen*
- 
- *Answer: B*

- *For diagnosis of enteric fever during the 1st week of illness:*
  - *A. The organism can be isolated from urine*
  - *B. The organism can be isolated from stool*
  - *C. The organism can be isolated from blood*
  - *D. The organism can be isolated from sputum*
  - *E. Widal test*
- 
- *Answer: C*

- *Which of the following is related to typhoid fever:*
  - *A. Water contamination*
  - *B. Meningitis*
  - *C. Intestinal perforation*
  - *D. Gastroenteritis*
  - *E. All of the above*
- 
- *Answer: C & A ..Are CORRECT*

# *Lecture 5*

- *Vibrio cholera*, one is **WRONG**:
  - A. Cholera toxin cause Increase of intracellular cGMP
  - B. Non- 01, 0139 *Vibrio* causes acute gastroenteritis
  - C. Have endotoxin
  - D. Motile curved bacilli
  - E. Are halotolerant
- 
- Answer: A

- *A 47-year-old male is diagnosed with peptic ulcer disease. Treatment includes antibiotics for infection of the stomach with Helicobacter pylori. Which enzyme is secreted by this organism and enables it to survive in the acid environment of the stomach:*
- *A. Transpeptidase*
- *B. Oxidase*
- *C. Catalase*
- *D. Urease*
- *E. Protease*
  
- *Answer: D*

- *A 34-year-old woman presents with fever, nausea, severe abdominal cramping, and bloody diarrhea that was fecal leukocyte-positive. A few days previously, she had eaten undercooked chicken. Of the following, which is the most likely etiologic agent:*
  - *A. Salmonella typhi*
  - *B. Shigella dysenteriae*
  - *C. Clostridium perfringens*
  - *D. Campylobacter jejuni*
  - *E. Yersinia enterocolitica*
- 
- *Answer: D*



- *The primary reservoir for Helicobacter pylori is:*
  - *A. Dog*
  - *B. Aquatic water*
  - *C. Cat*
  - *D. Rat*
  - *E. Human*
- 
- *Answer: E*

- The characteristic '*rice water stool*' diarrhea is associated with infection by:
  - A. *Campylobacter jejuni*
  - B. *Vibrio cholera*
  - C. *Salmonella typhimurium*
  - D. *Shigella sonnei*
  - E. *Coxiella burnetii*
  
- Answer: B

- *Which of the following is false regarding C. Jejuni:*
  - *A. It is a microaerophile*
  - *B. It is associated with Guillain-Barre syndrome*
  - *C. It is a small gram-negative curved rod*
  - *D. Pathogenesis is mainly through toxins like enterotoxins*
  - *E. All of the above is true*
- 
- *Answer: D*

- *Which of the following bacteria grow well at 42°C in a microaerophilic environment:*
  - *A. Vibrio cholera*
  - *B. Yersinia Pseudotuberculosis*
  - *C. Campylobacter coli*
  - *D. Helicobacter pylori*
  - *E. None of the above*
- 
- *Answer: C*

- *Which isn't associated with H. Pylori infection:*
  - *A. Gastritis*
  - *B. Duodenal ulcer*
  - *C. Urease*
  - *D. Chronic meningitis*
- 
- *Answer: D*

- *Vibrio Parahemolyticus:*
  - A. Food poisoning
  - B. Septicemia
  - C. Wound infection
  - D. A +B
  - E. A + B+ C
- 
- Answer: A (sea foodborne)

- *A 52-year-old woman presented with indigestion and heartburn occurring shortly after meals which she treated with over-the-counter antacids. Physical examination revealed mild epigastric tenderness. A radiolabeled-urea breath test is positive. What is the most probable etiologic agent:*
  - *A. Campylobacter jejuni*
  - *B. Helicobacter pylori*
  - *C. Yersinia enterocolitica*
  - *D. Shigella dysenteriae*
  - *E. Clostridium difficile*
- 
- *Answer: B*

- *The most effective non-invasive test for the diagnosis of Helicobacter pylori associated gastric ulcers is:*
  - *A. Detection of H. pylori antigen in stool*
  - *B. Growth of H. pylori from a stomach biopsy*
  - *C. Growth of H. pylori in the stool*
  - *D. IgM antibodies to H. pylori*
  - *E. Culture of stomach contents for H. pylori*
- 
- *Answer: A*



- Which of the following statements best describe *Vibrio cholera*:
  - A. Motile by multiple polar flagellae
  - B. Oxidase negative
  - C. Give yellow colonies on TCBS
  - D. Give green colonies on TCBS
  - E. Gram positive curved bacilli
- 
- Answer: C

- *A female who had sushi at a party is presented with gastroenteritis, which of the following agents may have caused the gastroenteritis:*
- *Answer: **V. parahaemolyticus***
  
- *Clinical case/ people who ate chicken from all-you can eat fried chicken buffet are presented with abdominal pain, vomiting, diarrhea, there are leukocytes in the stool, which of the following is the causative agent:*
- *Answer: **Campylobacter (G-ve bacilli, nonlactose fermenting)***

- *T.C.B.S media is selective for:*
- *Answer: Vibrio Cholera*
  
- *Clinical case- to detect H pylori:*
- *Answer: Urea breath test*
  
- *We cultured the blood of a person with bloody diarrhea and bacteria grew at 42°C and at 5% oxygen. What are these species:*
- *Answer: Campylobacter jejuni*

# *Lecture 6*

- All of the following are members of *mycobacterium tuberculosis complex* “ MTC “ EXCEPT:
  - A. *mycobacterium tuberculosis*
  - B. *mycobacterium bovis*
  - C. *mycobacterium microti*
  - D. *mycobacterium dassie*
  - E. *mycobacterium falciparum*
  
- Answer: E

- *All of the following are the symptoms of pulmonary tuberculosis, EXCEPT:*
  - *A. Weakness and fatigue*
  - *B. Decreased body temperature*
  - *C. Weight loss*
  - *D. Severe prolonged cough with sputum or blood*
- 
- *Answer: B*

- *The initial therapy of tuberculosis treatment regimen includes which of the following antibiotics/ drugs:*
  - *A. Streptomycin and rifampin*
  - *B. Isoniazid, streptomycin, and ethambutol*
  - *C. Rifampin, isoniazid, and ciprofloxacin*
  - *D. Isoniazid, rifampin, pyrazinamide, and ethambutol*
- 
- *Answer: D*

- *Humans become infected with Mycobacterium tuberculosis most frequently by:*
  - *A. inhalation*
  - *B. ingestion*
  - *C. contact*
  - *D. inoculation*
  - *E. Hematogenous*
  
- *Answer: A*



- *Leptospirosis, one is wrong:*
  - *A. Varying from asymptomatic to fatal disease*
  - *B. Feco-oral transmission*
  - *C. Caused by Leptospira interrogans*
  - *D. Zoonosis*
  - *E. Hepatitis is frequent*
- 
- *Answer: B*

- *Gastrointestinal Tuberculosis, one is wrong:*
  - *A. Direct spread to the peritoneum from infected adjacent foci*
  - *B. Hematogenous or lymphatic spread*
  - *C. Extra-pulmonary TB*
  - *D. Ingestion of infected milk or sputum*
  - *E. Common*
- 
- *Answer: E*

- *Human transmission of Brucella can occur by any of the following EXCEPT:*
  - *A. Ingestion of infected milk*
  - *B. Ingestion of contaminated meat*
  - *C. Person to person*
  - *D. Inhalation*
  - *E. Direct contact with animal tissues*
- 
- *Answer: C*

- *Which of the following can be used to culture Mycobacterium species:*
  - *A. Chocolate agar*
  - *B. Brucella agar*
  - *C. Middlebrook Agar*
  - *D. TB agar*
  - *E. EMJH medium*
- 
- *Answer: C*

- Which one of the following is obligate intracellular:
- Answer: *mycobacterium tuberculosis*

الله يوفقكم جميعاً أدعولنا

- *Answer for question in page 54 was E... the new answer will be A*
- *Answer for question in page 44 was E... the new answer will be A&C*

*Best of luck <3*

