

MICROBIOLOGY

Git - MNU

LECTURE 1- MCQ



DR A.G

SEM

5



1	<p>A 25-year-old man presents with step-ladder fever, abdominal pain, and constipation. On the 10th day of illness, he develops rose spots on the abdomen. Which organism is most likely responsible?</p> <p>A) Salmonella Typhi B) Shigella dysenteriae C) Vibrio cholerae D) Escherichia coli E) Brucella</p>	A
2	<p>A child presents with acute onset of bloody diarrhea, mucus, and abdominal cramps. Stool exam reveals Gram-negative, non-motile rods. Which is the causative agent?</p> <p>A) Salmonella Typhi B) Shigella dysenteriae C) Campylobacter jejuni D) Vibrio parahaemolyticus E) E. coli O157:H7</p>	B
3	<p>A 40-year-old man develops gastroenteritis with diarrhea, vomiting, and abdominal cramps after eating undercooked poultry. The illness resolves in 3 days. Which organism is responsible?</p> <p>A) Vibrio cholerae B) Non-typhoidal Salmonella C) Shigella flexneri D) Bacillus cereus E) Staphylococcus aureus</p>	B
4	<p>A 32-year-old woman presents with prolonged fever and hepatosplenomegaly. Blood culture grows Gram-negative motile bacilli producing H₂S. Which test would help confirm the diagnosis in the 2nd week?</p> <p>A) Blood culture B) Stool culture C) Widal test D) Urine antigen test E) PCR only</p>	B



5	<p>A 6-year-old child presents with bloody diarrhea. Lab shows shiga toxin-mediated inhibition of protein synthesis. Which complication is most feared?</p> <p>A) Rose spots B) Hemolytic uremic syndrome (HUS) C) Chronic carrier state D) Peptic ulcer E) Intestinal perforation</p>	B
6	<p>Which family do Salmonella and Shigella belong to?</p> <p>A) Pseudomonadaceae B) Enterobacteriaceae C) Vibrionaceae D) Neisseriaceae E) Spirochaetaceae</p>	B
7	<p>Which antigen of Salmonella acts like a capsule and aids systemic spread?</p> <p>A) O antigen B) H antigen C) Vi antigen D) K antigen E) M antigen</p>	C
8	<p>Which of the following is motile?</p> <p>A) Shigella B) Salmonella C) Klebsiella D) Yersinia pestis E) Corynebacterium</p>	B
9	<p>Infective dose of Salmonella (non-typhoidal) is:</p> <p>A) 10-100 organisms B) 10^3 organisms C) 10^5-10^6 organisms D) 1 organism only E) Non</p>	C



10	Infective dose of Shigella is: A) 10 ⁵ -10 ⁶ organisms B) 10 ³ organisms C) 10-100 organisms D) 10 ⁸ organisms E) None	C
11	Primary site of Salmonella Typhi invasion: A) Large intestine B) Peyer's patches of small intestine C) Gall bladder D) Colon mucosa E) Bloodstream directly	B
12	Which toxin is produced by Shigella dysenteriae? A) Cholera toxin B) Shiga toxin C) Heat-labile toxin D) Enterotoxin B E) Neurotoxin	B
13	Main mechanism of action of Shiga toxin: A) Activates adenylate cyclase B) Inhibits protein synthesis C) Blocks acetylcholine release D) Destroys myelin E) Stimulates chloride secretion	B
14	Carrier state in typhoid fever is due to persistence of Salmonella in: A) Liver B) Kidney C) Gall bladder D) Spleen E) Pancreas	C



15	Which patients are at highest risk of invasive non-typhoidal Salmonella? A) Healthy adults B) Immunocompromised (HIV, extremes of age, sickle cell) C) Vegetarians D) Pregnant women only E) Children with asthma	B
16	Which is the gold standard test for diagnosis of typhoid fever? A) Widal test B) Stool culture C) Blood culture D) PCR E) Urine culture	C
17	Which diagnostic sample is best in the 1st week of typhoid fever? A) Blood B) Stool C) Urine D) Bone marrow E) Rose spot biopsy	A
18	Which diagnostic sample is best in the 2nd week of typhoid fever? A) Blood B) Stool C) Urine D) CSF E) Sputum	B
19	Which diagnostic sample is best in the 3rd week of typhoid fever? A) Blood culture only B) Urine and serology C) Stool only D) Rose spot scraping E) CSF	B



20	What is the principle of the Widal test? A) Agglutination of Salmonella antigens by patient serum antibodies B) Precipitation test C) Neutralization of toxin D) PCR detection E) Hemagglutination inhibition	A
21	Which antibody predominates in late typhoid infection? A) O antibody B) H antibody C) IgE D) Vi antibody E) IgM	B
22	Which antibody predominates in late typhoid infection? A) O antibody B) H antibody C) IgE D) Vi antibody E) IgM	B
23	Which of the following is H₂S positive? A) Salmonella B) Shigella C) Klebsiella D) Enterobacter E) Streptococcus	A
24	Which of the following is H₂S negative? A) Salmonella B) Shigella C) Proteus D) Citrobacter E) Edwardsiella	B



25	<p>On XLD agar, Salmonella colonies appear:</p> <ul style="list-style-type: none">A) Red colonies with black centersB) Red colonies onlyC) Pink mucoidD) Green coloniesE) Clear colonies	A
26	<p>On SS agar, Salmonella colonies are:</p> <ul style="list-style-type: none">A) PaleB) PinkC) YellowD) GreenE) Mucoid	A
27	<p>On HE agar, Salmonella colonies appear:</p> <ul style="list-style-type: none">A) Green colonies with black centersB) YellowC) RedD) TransparentE) White	A
28	<p>On XLD agar, Shigella colonies appear:</p> <ul style="list-style-type: none">A) Red without black centersB) Red with black centersC) GreenD) YellowE) Transparent	A
29	<p>Which test is no longer considered reliable for typhoid diagnosis due to low specificity?</p> <ul style="list-style-type: none">A) Blood cultureB) Widal testC) PCRD) Antigen detectionE) Stool culture	B



30	<p>Which molecular method is widely used in 2025 for rapid Salmonella identification?</p> <p>A) Slide agglutination only B) MALDI-TOF C) Gram stain D) Latex agglutination E) ELISA</p>	B
31	<p>Which test detects Salmonella during outbreaks with highest precision?</p> <p>A) Widal test B) Whole-genome sequencing C) ELISA D) Stool culture E) Slide agglutination</p>	B
32	<p>Treatment of uncomplicated typhoid fever:</p> <p>A) Ciprofloxacin only B) Azithromycin C) Chloramphenicol D) TMP-SMX E) Penicillin G</p>	B
33	<p>Treatment of severe typhoid fever:</p> <p>A) Ceftriaxone B) Ciprofloxacin C) Ampicillin D) Chloramphenicol E) Gentamicin</p>	A
34	<p>Treatment for XDR Salmonella Typhi:</p> <p>A) Ciprofloxacin B) Meropenem C) Chloramphenicol D) TMP-SMX E) Penicillin</p>	B



35	Vaccination against typhoid is given as: A) Live attenuated oral / conjugate vaccine B) BCG C) DPT D) Polio vaccine E) None	A
36	Chronic carriers of typhoid often require: A) Short antibiotics only B) Cholecystectomy + prolonged antibiotics C) IV fluids only D) No treatment E) Surgery of spleen	B
37	Main treatment of shigellosis (mild cases): A) Ciprofloxacin if sensitive B) Penicillin C) Gentamicin D) Amoxicillin E) Chloramphenicol	A
38	Treatment of severe shigellosis in hospitalized patients: A) Ceftriaxone B) Amoxicillin C) Metronidazole D) Vancomycin E) Ampicillin	A
39	Supportive therapy in children with shigellosis includes: A) IV steroids B) Oral rehydration + zinc supplementation C) Antifungal drugs D) Blood transfusion E) Cholecystectomy	B



40

Which best differentiates *Salmonella* from *Shigella* in the lab?

- A) Gram-negative bacilli
- B) Non-lactose fermenter
- C) Motility & H₂S production
- D) Capsule presence
- E) Both cause diarrhea

C