Lecture no7

Clostridium

CL.tetani

Disease:Tetanus

CL secreate two toxin

1-tetanospasmin

2-tetanolysin

pore

L.D

There is no microbiologic or serologic diagnosis. Organisims are rarely isolated from the wound site. CL.tetani produce aterminal spore aspore at the end of the rode. This gives the organisims the characteristic appearance G of atetanus racket G+ or drum stick.

Treatment

maintained and respiratory supportnt.

Tetanus immune globulin(tetanus antitoxin ) is used to neutralize the toxin. Adequate airway must be

Maintained and respiratory supportgiven.

Clostridium botuit blocksnumes release acetylecholine

Disease:Botulinum

Pathogenesis

Botulinum toxintypes of toxine, typeA,B,E are the most

Is absorbed from the gut and carried via the blood periplural nerve synapse whereit blockes release of acetylecholine,it is aprotease that cleaves the protein involved in acetylecholine release. The toxinis polypeptide encoded by lysogenic phage. Along with tetanus toxin ,it is among the most toxic substance knortwn. There are eight immunologic types of toxin, type,A,B,E are the most ommon in human illness.

L.D

The organisims is not cultured. Botulinum toxin is demonstrable in uneaten food and the patient serum by mouse protection tests. Mice are inoculated with sample of the clinical specimen and will die unless protected by antitoxin.

Treatment

Trivalent antitoxin(typeA,B,E) is given along with respiratory support.

Clostridium perfringes

Cause two disease:gass productiongangrene and food poisoning, depending on the route of entery into the body.

Disease gass gangrene

Myonecrosis ,necrotizing fasciitis is one of the two disease caused by Cl. Perfringes

Pathogenesis

Organisim grow in trauma tissue especially muscle and produce avariety of toxin. The most important is alpha toxin(lecithinase ) which damage cell membranes including those of ily

L.D

Smears of tilyrie tissue and exudates sample show large G+ rods. Spores are not seen because they are formed primarily under nutritionally deficient conditions, the organisim are cultured anaerobically and then identified by sugar fermentation reaction and organic acid production. CL. Perfringes colonies exhibit (double zone of hemolysis on blood agar or egg yolk agar is used to demonstrate the presence of the lecithinace. Serologic tests are not useful.

Treatment

Pencillin G

Clostridium difficile

Disease

Antibiotic – associated pseudomembranous colitis most common nosocomal hospital acquired infection cause of diarrhea.

L.D

The presence of exotoxin in the filterate of apatient, stool specimen is the bases of the laboratory diagnosis . It is sufficient to culture the stool for the presence of CL. Difficile because people ca be colonized by the organisims and not have disease. There two tests used to detect exotoxin one is ELIZA,two PCR.

Treatment

Oral metronidazle.