Lecture no 6

Brucella

rods

Species

B. abortus cattle,B melitensis sheep, ,goat,B. suis pig, B. canis spread to human from dog

Bactriology

Are small, coccobacillary are Gram negative rods morphology resemble Haemophylus and Bordetella. They anon motile , non acid fast, non spore forming. The cells have atypical G- structure and the outer membrane contains proteins and two major antigenic varients (A,M). Their growth is slow, requiring at least 2-3 days of aerobic incubation in enriched broth or on blood agar. All species produce catalase, oxidase, and urease, but not ferment carbohydrate. They differentiate by carbon dioxide requirements, hydrogen sulphide production, and susceptibility to dyes(thionine and basic fachsin)

Pathogenesis

All brucella are facultative intracellular parasites of epithelial cells and professional phagocytes. After they penetrate the skin or MM they enter and multiply in macrophage in the liver, sinusoids, spleen.,bone marrow.

Diagnosis

Definitive diagnoses requires isolation of brucella from the blood or from biobsy specimens of the liver, bone marrowor L.N. Supplimintation with carbon dioxide is needed for growth of B.abortus . Blood cultures may require2 to 4 weeks for growth. The diagnoses is made serologically. Antibodies that agglutinate suspention of heat- Killed organisimstypically reach titers of 1:640 or morein acute disease. Lower titers m of hpreviouslyuman brucellosisay reflect previous disease or cross- reacting antibodies.

 products

Tetracycline,Doxycycline

Prevention

The control of human brucellosis relates directly to prevention programs in domestic animals and avoidingunpasterized milk and milk products. In slaughter houses, important means of prevention include careful wound dressing, protective glasses and clothing, prohibition of raw meat ingestion, and the use ofpreviously infected immune individuals in high risk areas

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