Introduction
Brucellosis, otherwise called as Bangs disease, undulant-fever, Malta fever and mediterranean fever. This is an infectious and contagious disease of animals caused by the bacteria genus Brucella. These bacteria are primarily passed among animals and they cause disease in different vertibrates. Various Brucella species affect animals like sheeps, goats, cattle, deer, elk, pigs, dogs etc. Human beings become infected by coming in contact with infected animals and eating or drinking the animal product that are contaminated with these bacteria. In human Brucellosis presents a wide range of symptoms that are similar to the flu, like fever, sweats, headaches, back pain and prostrations. Severe infections of CNS or lining of heart may occur. In prolong cases chronic symptoms like recurrent fever, joint pain and fatigue may occur.

Etiological Agent
Brucella bacteria cause Brucellosis. The species of brucella which infect human are B. abortus, B. melitensis, B. suis and rarely B. canis.

Incubation period
The incubation period for brucellosis is highly variable ranging from 5 to 60 days. The illness most commonly occur in about 1 month after exposure.

Availability
Brucellosis can be found world wide but it is more in countries where do not have good standardised and effective public health and domestic health programs. Listed high risk countries are the countries of Mediterranean basin (Portugal, Spain, Italy, Greece, Turkey, Middle east, North Africa), South and central America, East European and Caribbean. It is also not uncommon in the countries of subcontinent like Pakistan, India and Bangladesh.

Reservoirs
Cattle, Swine, Goats and Sheeps are the most common reservoirs. Bison, Elk, Caribou and some species of Deer may also harbour Brucella species. B. canis is an occasional problem in laboratory dog colonies and kennels. A small percentage of pet dogs and a higher proportion of stray dogs have B. canis antibody titres. Coyotes have also been found to be infected.

Transmission
Brucellosis is spread through direct, contact (mucosal surfaces, cuts and abrasions of the skin), with secretions of living or dead infected animals, including, their tissues, blood, urine, vaginal discharges, aborted fetuses and placentas. It may also be spread through ingestion of raw milk and dairy products from infected animals. Person may also be infected through accidental inoculation with live brucella vaccine strain used for livestock (Strain-19). Person to person spread is extremely rare, although it has been reported to occur through bone marrow transplantation. In cattle brucellosis is primarily a disease of the female cow. Bulls can be infected but they do not readily spread the disease. The brucellosis organism locatises in the teticles of the bull and produces an orchitis, whereas in the female the organism localizes in the udder, uterus and lymph nodes adjacent to the uterus.

Clinical Features
Brucellosis may present as a non-specific febrile illness which resembles influenza, fever, headache, myalgia, arthralgia, back pain, sweats, chill and generalise weakness and malaise are the common complains.
Cough and pleuritic chest pain may occur in up to 20% of the cases but these are usually not associated with acute pneumonias. Gastrointestinal symptoms occur in up to 70% of adult cases and less frequently in children. These include anorexia, nausea, vomiting, diarrhoea or constipation, ileitis, colitis and granulomatous or a mononuclear infiltrative hepatitis may occur. Lumber pain and tenderness can occur in up to 60% of cases. Vertibral and disc space destruction may occur in chronic cases. Hepatomegaly and splenomegaly can occur in up to 45% to 63% of cases. Peripheral joint involvement may vary from pain, swelling to joint immobility and effusion. Peripheral joint effusions usually show nononoclear cell predominance and the organism can be isolated in up to 50% of cases. The hip joints are the most commonly involved peripheral joints but ankle, knee and sternoclavicular joint infection may occur. Meningitis occur in less than 5% of chronic cases may present as an acute illness. Encephalitis, peripheral neuropathy, radiculoneuropathy and meningo-vascular syndrome has also been observed in some cases. Behavioral disturbances in children and psychoses may occur in the meningo encephalitic form of the disease. Epidymo-orchitis may occur in men. Rashes occur in less than 5% of cases and include macules, papules, purpura, petechiae and erythemenod osum.

Diagnosis

The leukocyte count may be normal or low. Anaemia and thrombocytopenia may occur. Blood or bone marrow culture during the acute phase of the disease will yield a positive in a rate of 15% to 90% respectively. A biophagic culture method for blood (castaueda bottle) may increase the number of isolates. The serum agglutinations test (SAT) will detect both I gM & gG anibodies, A titre of 1:160 or greater is indicative of acute disease. A 1 gM titre can be measured by adding a reduced agent such as 2-mercaptoethanol to the serum. A dotElisa using an autoclaved extract of B. abortus has been found to be a sensitive and specific test for detection of Brucella antibodies under field conditions. Elisa tests for antibody detection require standardization using a specific anigen before they will be available. Antigen detection on DNA extracted from blood mononuclear cells has been accomplished using PCR analysis of a target sequence on the 31-Kilodalton B. abortus protein BCSP 31. This test has been proven to be rapid and specific and may replace blood culture in the future, since the later may require incubation for up to 6 weeks tims. PCR for brucella species is not available at this time except in research labora-tories, but shows promise for the future, use.

Medical Management

Isolation is not required other than contact isolation for draining lesions. Person to person transmission is possible via contact with such lesions. Biosafety level 3 practices should be used for suspected brucella culture in the laboratory because of the danger of inhalation infection. Antibiotic therapy is recommended as the sole therapy unless there are surgical indications for the treatment of localised diseases (e.g. valve replacement for endocarditis). The treatment recommended by the WHO for acute brucellosis are Doxycycine plus Rifampicin for a maximum period of six weeks. The previously established regimen of intramuscular streptomycin along with an oral tetracycline may give fewer relapses but is no longer the primary recommendation. Ofloxacin and rifampicin per oral is also an effective combination. Combination therapy with rifampicin, tetracycline and an Aminoglycosides is an indication for infections with complications such as meningoencephalitis or endocarditis. Doxyclyne clearance is increased in the presence of Rifampicin and plasma levels are lower than when streptomycin is used instead of rifampicin.

Prophylaxis

Live animal vaccines are used widely. Consumption of unpasteurised milk and milk products should be avoided. No approved human brucella vaccine is available. An experimental human brucellosis vaccine has been tested with a 25% rate of unpleasant acute side effects, but no longer term adverse
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Side effects.

Conclusion
As mentioned early Bangladesh is one of the Brucella available country and moreover our society and culture is related with domestic animals. Because of the food habits and illiteracy, people are taking plenty of unpasteurised milk and milk products. So doctors must be careful in taking the history specially social, professional and dietary history of the patients those who attend with prolong fever with prostrations.

References
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