Yersinia Enterocolitica

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Yersinia enterocolitica is another newly recognized pathogen causing enteritis in different parts of the world[1]. First isolated in 1923 but it was not until 1960 that this bacteria was recognized as an important enteropathogen. Enteritis due to Yersinia can occur at any age. The incidence is highest in children under five years and decreases with the advancement of age; probably due to the development of immunity[2]. Infection occurs in both sexes and is reported both in summer[3] and winter[4].

Clinical pattern of Yersinia infection varies with age. Predominant symptom in children is acute watery diarrhoea for 3 to 14 days. Older children and young adults present with right lower quadrant abdominal pain accompanied by fever, vomiting, leucocytosis and elevated ESR, which may mimick an attack of acute appendicitis[5]. Besides the benign form, there is also a more severe form of the disease characterized by dehydration, intestinal ulceration and peritonitis. Septicemia occurs rarely[6] and is found mostly when some underlying diseases as blood dyscrasia, cirrhosis or diabetes is present[7] or when lesions are found on colonoscopy[8].

Complications of Yersinia infection are reactive arthritis[9,10] Osteomylitis, subacute hepatitis, intraabdominal abscess, erysepalas like disease, ophthalmitis, meningitis, urethritis and acute glomerulonephritis[11] Patients with thyroid disease may have elevated antibodies against Yersmia enterocolitica[12]. Erythema nodos'im may follow the infection with Yersinia occurring 1 to 2 days after enteritis. It is most frequent in women over the age of 40 years. Ileitis caused by Yersinia has a similarity with the early changes and even advanced stage of Crohn's disease[13] but the pathological findings of Yersinia enteritis are distinctive and easily differentiated from Crohn's disease[14]. Some strains of Yersinia are invasive when tested in Hela cells, porcine kidney cells and Sereny test[2].

Yersinia infection has been traced to a wide variety of environmental sources. Enterotoxin producing strains have frequently been isolated from small mammals, water and soil. It is possible that such strains may contaminate food with the enterotoxin[15]

Transmission of infection is through contaminated food and milk. Yersinia isolated from human excreta has been recovered from the milk[16] Person to person transmission is also known. Nosocomial outbreaks of this infection also takes place[17]. A large variety of wild and domestic animals are a source of infection especially pig which is an important reservoir of human strains.

Diagnosis of Yersinia is best made by direct isolation of the organisms from feces.[18] Yersinia can also be isolated with other enterobacteria if the plates are further incubated at 22°C for 48 hours. Enrichment technique is also beneficial' '~ and useful in acute diarrhoeal cases[19].

Isolation of Yersinia can, also be made from pus and postoperative wound infection[8]. Serological tests are useful to detect agglutinins against the antigen of the infecting strain. These tests are usually positive after 8 to 10 days of illness. Complement fixation test and ELISA test have recently been described[20]. Detection of Yersinia is also done by the suckling mouse assay but this may give false negative results[21]. Diagnosis is also made radiologically where mucosal lesions of the terminal ileum are seen in patients with gastrointestinal symptoms. Colonic mucosa of a patient with Yersinia enterocolitica exhibited a rectangular pattern on air contrast barium enema[22]

Treatment of Yersinia infection is with antibiotic therapy. Majority of the strains are sensitive to Streptomycin, Tetracycline, Chloramphenicol, Nitrofurantoin, Sulfonamides, Trime thoprim, Sulfmethoxole. Gentamycin, and Naladixic acid, Strains are resistant to Penicillin and its derivatives

and cofalotin[23] Antibiotic therapy is needed only in complicated or severe cases. Treatment with antibiotics eradicates the organisms which otherwise may continue for 2 to 3 months in untreated cases. Septicemia if present should be treated with Gentamycin.

As Yersinia enterocolitica is being reported as a causative agent of diarrhoea in other countries it should be looked for in diarrhoeal stools both in children and adults in Pakistan. The clinical pattern, mode of transmission, reservobs of infection and methods for, prevention and control should be studied in our country as a large number of diarrhoeal cases in which no aetiological agent is found may be due to Yersinia enterocolitica.

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