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Abdominal Tuberculosis

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Tuberculosis (TB) is still one of the leading causes of morbidity and mortality in the world. It is estimated that approximately one-third of the world's population has been infected by Mycobacterium tuberculosis[1,2]. In spite of the multi-national effort to control the disease, the incidence of tuberculosis remains high in many countries. In United States of America[3], between 1985 and 1988, the number of cases declined by about 3% each year. However, between 1988 and 1990, there was a large increase in the number of cases, ranging from 7% to 21% annually. Since then, there had been a slight decrease of about 1% per year. Even though the number of cases declined slightly since 1992, the proportion of all TB cases occurring among children steadily increased over time. The TB case rate among children increased from 2.42/100,000 in 1985 to 2.85/100,000 in 1994, an 18% increase. Studies of the epidemiology of tuberculosis in New York City[4] and San Francisco[5] using conventional methods combined with DNA fingerprinting of Mycobacterium tuberculosis showed that 31% to 40% of the new cases were the results of recent infection. This finding is in contrast with the long held assumption that only 10% of cases are due to new infection. In Singapore[6], the disease incidence has declined from 106 cases per 100,000 population in 1980 to 52 cases per 100,000 population in 1995. Together with the decline in incidence, there was also a concomitant decline in the mortality rate, from 40/100,000 in 1960 to 3.8/100,000 in 1995.

Abdominal involvement occurs in some 2% of patients with TB. It is more common among patients with acquired immunodeficiency syndrome (AIDS). Abdominal tuberculosis can involve the omentum, intestinal tract, liver, spleen, female genitalia tract and peritoneum. The onset of disease is usually insidious with symptoms present for several months before diagnosis. Most patients are 20-45 years of age.

Abdominal tuberculosis is not common in Singapore and western countries but is still an endemic disease in some Asian countries. In a general hospital in Taiwan[7], 60 cases of colorectal TB were found among 116 cases of abdominal TB from 1965-1989. The most common complaints on admission were abdominal pain, distention, fever, general weakness and progressive weight loss. An abdominal mass could be palpated in 12 of the 60 patients. Change of bowel habit occurred in 55% of the cases, but bloody stool was rarely seen. Forty of the 60 had radiological evidence of pulmonary TB, and the duration of abdominal symptoms before presentation ranged from half a month to as long as three years.

In children, abdominal TB is rare. There are various clinical presentations[8]. The most common is intestinal symptoms such as colicky abdominal pain, vomiting and gaseous abdominal distention. The second mode of presentation is insidious onset of abdominal distension and ascites. This is due to peritoneal TB. The third presentation is totally asymptomatic and are identified incidentally when the patients are examined or investigated for non-related condition. As in the adults, a high percentage of patients with abdominal TB have evidence of TB elsewhere in the body.

Almost the whole length of the gastrointestinal tract can be involved with TB although the vast majority affects the small intestine and ileocaecal region. In a series of 145 patients, small bowel and ileocaecal region are the main site of infection in 140 with peritoneal involvement in 29[9].

Laboratory tests have little diagnostic values. Elevated ESR is seen in the majority of cases but may be normal even in some histologically proven patients with abdominal TB. Radiological investigations are helpful in establishing the diagnosis. Though not pathognomonic, radiological signs such as multiple strictures, distorted caecum and terminal ileum are highly suggestive of TB. Other features such as ulceration, swollen folds, wall thickening and enlarged nodes on barium studies favoured the diagnosis of abdominal TB, particularly in endemic areas.

Ascites fluid examination would reveal high protein content with majority of the cells as lymphocytes. For those presenting with abdominal mass disease, fine needle aspiration under ultrasound guidance is helpful[9]. Finding 23 abdominal TB cases among 78 gastrointestinal tract lesion in the study by Das suggests that abdominal TB is one of the commonest causes of abdominal mass of gastrointestinal tract origin[10].

Recently, the use of polymerase chain reaction has contributed significantly to the diagnosis of TB infection[11,12].

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