Leading articles

Abdominal tuberculosis

Tuberculosis is a disease which has affected mankind for many centuries. An early reference to probable intestinal tuberculosis was made in 1643 when the autopsy on Louis XIII showed ulcerative intestinal lesions associated with a large pulmonary cavity.\(^1\) In the 19th and early 20th centuries, however, tuberculosis was seen as a common disease associated with the poor in overcrowded conditions. In the United Kingdom the situation has progressively improved because of various preventive measures introduced in this century. These have virtually eradicated bovine tuberculosis, but the human strain still persists. In the immediate postwar years with the discovery of streptomycin and other drugs effective against Mycobacterium tuberculosis, there was much talk of conquering the scourge of tuberculosis. Unfortunately the disease is still a scourge in developing countries and it does occur in the western world although the incidence is less.\(^2\)

In the developed countries there is a change in pattern, with a greater predominance of non-pulmonary, including abdominal tuberculosis.\(^3\) Furthermore, although some of the patients may have co-incident pulmonary disease there is an increased proportion who have intra-abdominal disease alone.\(^3\) It is in this group that the diagnostic problems are particularly difficult.

In this issue, Palmer and his coworkers emphasise that abdominal tuberculosis is still present in Britain.\(^4\) They go on to say that it is a common disease. This statement is more debatable, but in certain cities in the United Kingdom the disease is definitely not rare.

It is apparent that more of the recent clinical papers on abdominal tuberculosis in Britain have come from centres with a large Asian population.\(^5-8\) Palmer and his colleagues emphasise that Brent is in their catchment area.\(^4\) Addison reports from Bradford\(^5\) and Ormerod and Klimach from Blackburn,\(^6\) two northern towns in which there is a considerable Asian community. The only recent paper which has a predominance of white citizens comes from Cardiff.\(^9\) Various workers have studied the probabilities of an individual developing abdominal tuberculosis, but the Blackburn study indicates that the risk for white citizens is 0.43 per 100,000, whereas that in the Asian population is 35.7 per 100,000.\(^9\) Many of the Asians are immigrants, but the period of residence varies markedly from as short as two months, to as long as 20 years. The mean length of stay in this country was 4±0.9 years in the paper reported in this issue\(^4\) and 7±52 years in the Blackburn series. In less than 20% of the cases is there reason to believe that the tuberculosis infection was present on arrival, which seems to indicate that the Asian population are either a susceptible group,\(^9\) or suffer from late recrudescence of inactive disease.\(^5\)

Many investigators have found the symptoms and signs of abdominal tuberculosis rather variable and non-specific. This is not surprising when
reports bring together such diverse entities as gastroduodenal, hepatic, ileocaecal, colonic, and anal involvement, as well as diffuse peritoneal tuberculosis. Obviously, with such an anatomically widely distributed potential there are many clinical patterns so that it is prudent to consider the possibility of tuberculosis as a cause of any gastrointestinal complaint in patients from the Asian community. Tuberculosis in the white population still occurs and because it is rare is much more easily overlooked. Rare presentations of abdominal tuberculosis include symptoms of duodenal or gastric ulcer, a diffuse colitis of similar nature to ulcerative colitis, anal fissure or fistula or pyrexia of uncertain origin.

The most common types of abdominal tuberculosis are intestinal disease involving the ileocaecal area and tuberculous peritonitis. There is sometimes difficulty in diagnosis in these two situations. The former has to be distinguished from Crohn's disease, appendicitis, and carcinoma, while the latter is easily confused with gynaecological, or diffuse abdominal malignancy. It has been pointed out that appendicitis and Crohn's disease are relatively rare in the Asian population. The probable diagnosis in a patient with this ethnic background presenting with disease in the right iliac fossa is abdominal tuberculosis. An inverse relationship usually exists between ileocaecal tuberculosis and Crohn's disease. In Asians Crohn's disease is rare, but there is a susceptibility to tuberculosis, while Jews seem particularly likely to develop Crohn's disease but are relatively resistant to tuberculosis.

Routine haematology and biochemistry yield non-specific results. Thus it is apparent that the clinical picture must bring the suspicion of tuberculosis to the investigator's mind before specific investigations can be set in hand.

It is rarely justified to treat the patient on clinical suspicion alone. Tissue should be obtained for histological and bacteriological assessment. The presence of caseating granulomata on histology may have to be accepted, but ideally the organism should be seen either on direct microscopy or on culture. If there is evidence of chest disease this may support a diagnosis of tuberculosis which can be substantiated if the organism is found in the sputum. In most series in the United Kingdom, however, most patients have normal chest radiographs. In the study in this issue of Gut less than half of the patients with intestinal or peritoneal tuberculosis had an abnormality on chest radiograph and none had a positive sputum; in the series from Blackburn and Bradford a significant minority had evidence of active pulmonary tuberculosis. The Mantoux test or other tuberculin test may be negative and does not seem to be of great diagnostic help. Examination of the stool for tuberculous organisms has been found to be valuable by the Bradford group, but most other centres who have reported from the United Kingdom rarely find this investigation to be useful.

Colonooscopy with biopsy, or liver biopsy have been shown to be useful in some patients. There are advocates for laparoscopy and biopsy, or blind biopsy of the peritoneum. These latter two procedures, however, do carry some risk of intestinal injury. In a minority of patients with abdominal tuberculosis there is a clear indication for an emergency operation at presentation because of complete intestinal obstruction, or perforation. In these instances the perforated or stenosed bowel should be resected conservatively and material sent for histopathological and
bacteriological examination.

When the diagnosis is made and the urgent surgical problems resolved, many patients can be managed satisfactorily by medical means. The drug regimes vary a little but it is usual to use three drugs initially. Isoniazid with rifampicin and pyrazinamide are the usual choice, but ethambutol or streptomycin may be substituted for one or other of these drugs. If material had been obtained for cultures then sensitivity of the organisms to the drugs should be determined. It takes some weeks for these sensitivities to be obtained, but when they are available the patient can then be managed on two appropriate drugs for the remainder of the course of treatment. It is now generally recommended that nine to 12 months is an adequate period for chemotherapy. During the treatment the patient has to be carefully monitored as all the drugs can produce hepatic dysfunction, though this is relatively uncommon.

Finally, it is important to continue to monitor the patients' symptoms, as on occasions, although the inflammatory process is controlled, healing leads to fibrous narrowing in the bowel causing obstructive symptoms. These patients may need secondary surgical management and it is particularly in this group that strictureplasty has a part to play.21

It is important that our attention is drawn to abdominal tuberculosis as it tends to be forgotten – for example, it is not mentioned in an otherwise excellent recent publication reviewing gastrointestinal infections.22 Tuberculosis is still with us and is still a great mimic.

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References