ABDOMINAL TUBERCULOSIS IN CAIRO,

By

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Twenty-two abdominal tuberculosis patients seen at Abbassia Fever Hospital in Cairo, Egypt from January 1990 to August 1992 are described; their mean age was 21.5 years, range 9-54 years; 17 were female. Common symptoms were fever, malaise, abdominal pain (64%) and weight loss (82%). Chest X-rays were normal in 14 patients (64%), but ultrasonography/computed tomography of the abdomen was abnormal in 20 patients (91%), with adenopathy the usual finding. Anaemia and a raised erythrocyte sedimentation rate were present in all patients, and purified protein derivative skin test (5 Tu) was positive in 82%. Predominant abnormal physical findings were abdominal (86%), including hepatomegaly/splenomegaly and abdominal mass. Diagnosis was made from biopsy material (caseating granulomas) in 6 patients by laparotomy, 1 by laparoscopy, and 3 by cervical or supraclavicular node biopsy; and from laboratory examination of excretions in only 4 patients (acid-fast bacilli in stools of 2, mycobacteria in urine and menstrual fluid). Eight patients required presumptive diagnosis after response to specific isoniazid (+ethambutol) antituberculous therapy.
Abdominal tuberculosis in Cairo, Egypt

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Abstract

Twenty-two abdominal tuberculosis patients seen at Abbasia Fever Hospital in Cairo, Egypt from January 1990 to August 1992 are described; their mean age was 21.5 years, range 9-54 years; 17 were female. Common symptoms were fever, malaise, abdominal pain (64%) and weight loss (82%). Chest X-rays were normal in 14 patients (64%), but ultrasonography computerized tomography of the abdomen was abnormal in 20 patients (91%); with adenopathy the usual finding. Anaemia and a raised erythrocyte sedimentation rate were present in all patients, and purified protein derivative skin test (5 Tu) was positive in 82%. Predominant abnormal physical findings were abdominal (86%), including hepatomegaly splenomegaly and abdominal mass. Diagnosis was made from biopsy material (caseating granulomas) in 6 patients by laparotomy, 1 by laparoscopy, and 3 by cervical or supravacular node biopsy; and from laboratory examination of excreta in only 4 patients (acid-fast bacilli in stools of 2, mycobacteria in urine and menstrual fluid). Eight patients required presumptive diagnosis after response to specific isoniazid (+ ethambutol) antituberculous therapy.

Introduction

In the past, abdominal tuberculosis (ileocaecal) was one of the commonest forms of extrapulmonary infections, probably due to ingestion of milk contaminated by the bovine tuberculosis bacillus. Primary abdominal tuberculosis accounted for 40% of all forms of tuberculosis among 22 autopsy cases in Sudan (SCHULZE et al., 1977) from whom Mycobacterium kansasii was isolated only once. A laparoscopy study in Egypt of 60 cases patients 75% of children showed that 9 of 20 isolates from 91 tuberculous peritonitis patients were M. kansasii (see DAVIES, 1982), indicating that in Egypt ingestion of milk products contaminated with this mycobacterium may still be a relatively common cause of primary gastrointestinal infections.

Abdominal tuberculosis is more common among the lower socioeconomic class, involving fever, weight loss and malnutrition, abdominal pain, abdominal swelling and or mass, elevated erythrocyte sedimentation rate (ESR) and variable response to tuberculin testing (FRANCIS, 1972; JOHNSON & ADEBEGE, 1979). Among adults, however, abdominal tuberculosis particularly peritonitis, commonly affects females during their second to fourth (child-bearing) decades and is usually associated with anaemia (SINGH et al., 1969). Autopsy findings have indicated that abdominal tuberculosis is characterized by great enlargement of the intra-abdominal lymph nodes, the commonest manifestation, and that disease sometimes spreads directly to the peritoneum and through the lymphatics to mediastinal lymph nodes, with haemogenous spread leading to involvement of other organs in patients who were usually emaciated (SCHULZE et al., 1977).

Recently, there has been an increase in extrapulmonary tuberculosis in association with the human immuno-deficiency virus pandemic and other immunosuppressive disorders (DAVIES, 1982). Abdominal tuberculosis is rare in developed countries, the proportion of patients with intra-abdominal tuberculosis disease alone has increased (WEIR & THORNTON, 1983). In developing countries, where tuberculosis is highly endemic, one needs a high index of suspicion in diagnosing abdominal tuberculosis since onset is insidious and manifestations are protean. We report on the findings in 22 patients diagnosed with abdominal tuberculosis.

Materials and Methods

Volunteer patients with either fever of unknown origin (FUO); or with suspected infectious disease diagnoses who are admitted to the Abbasia Fever Hospital, Cairo, Egypt, are prospectively evaluated by the US Naval Medical Research Unit No. 3 (NAMRU-3). Records of patients admitted to the fever ward at Abassia Fever Hospital, Cairo, Egypt, from January 1990 to December 1992 were retrospectively reviewed because of an apparent increase in diagnoses of abdominal tuberculosis patients seen at this fever hospital, half of whom were diagnosed during the last year. 156 FUO patients, 63 (40%) were diagnosed as extrapulmonary tuberculosis. We summarize the findings of 22 of these patients diagnosed with abdominal tuberculosis.

Methods of confirmed diagnosis included culture of mycobacteria or presence of acid-fast bacilli in excreta, or caseating granuloma seen on lymph node biopsies, laparotomy or laparoscopy (at the discretion of the consultant surgeon). Consulting surgeons do not culture biopsy specimens. Presumptive diagnosis was made among those who experienced a rapid response and resolution of symptoms after specific isoniazid (+ ethambutol) antituberculous treatment. Cultures to distinguish mycobacteria species were unavailable.

Results

Seventeen (77%) patients were females and 5 were males. The patients' ages ranged from 9 to 54 years (mean 21.5). Ten were children <17 years old and 8 of these were females. Ten patients were in their second to fourth (child-bearing) decades (i.e., 12-35 years old). The most common presenting symptoms were fever, malaise, abdominal pain (64%) and weight loss (82%), and predominant physical findings were abdominal in 86%, including pain, tenderness in 14 patients, hepatomegaly splenomegaly in 7 patients and abdominal mass in 5 patients. Lymphadenopathy was a physical finding in only 3 patients (1 cervical, 1 supravascular and 1 generalized). Anaemia and an elevated ESR were present in all patients and were important findings suggesting the diagnosis. Tuberculin skin tests using purified protein derivative (PPD, 5 Tu) were positive (>10 mm induration) in 18 patients (82%) and negative in 4. Admission chest X-rays revealed hilar lymphadenopathy in 2, peritoneal lymphadenopathy in 2, pulmonary infiltrates in 2 and pleural effusion in 2. Fourteen patients' admission roentgenograms (64%) were considered normal. Ultrasonography or computerized tomography was abnormal in 20 patients (91%), adenopathy being the usual finding (14 patients).

Diagnosis was made by means of positive cultures in 2 patients (one urine and one menstrual blood culture); by demonstration of acid fast bacilli (AFB) in stools of 2 patients; by biopsy material demonstrating caseating granulomas in 10 (cervical or supravascular lymph node biopsy in 3, mesenteric lymph node biopsy in 2, para-aortic lymph node biopsy in 1, omentum in 2, and spleen in 2);
and by clinical presentation and manifestations consistent with presumptive tuberculosis after response to specific anti-tuberculous therapy in 8 patients.

The difficulty of differentiating abdominal tuberculosis from malignant disease was a significant problem in 8 patients. Abdominal sonography and computed tomography (CT) revealed multiple hypo-echoic and hypodense lesions of the spleen resembling splenomegaly lymphoma in 3 patients, and intra-abdominal masses resembling retroperitoneal tumors in 3 other patients. A seventh patient was initially reported as a primary intestinal lymphoma whose barium meal revealed mural thickening, submucosal 'thumb printing' and 'cobble stoning' of the jejunum, ileum and duodenum. In a sixth patient with a history of adenocarcinoma of the sigmoid colon and resection anastomosis, followed 5 months later by fever of 3 months' duration, computed tomography and lymphangiography revealed para-aortic and retrocrural lymphadenopathy suspected to be metastatic retroperitoneal lymph node enlargement. Evaluation by laparotomy and pathological examination of the tissue showed disseminated tuberculosis and no malignancy.

It was difficult to categorize abdominal tuberculosis patients since most had overlapping features. However, based on predominant findings, the categories noted were abdominal (primarily mesenteric) adenopathy (8 patients or 36%), peritonitis (5 or 23%), intestinal (4 or 18%), splenic (3 or 14%) and genitourinary (2 patients or 9%).

Discussion

In countries where tuberculosis is highly endemic, abdominal tuberculosis must be included in the differential diagnosis of complex fever and abdominal distension, particularly when abdominal distension or mass is part of the presenting feature. Normal chest and abdominal X-rays do not rule out abdominal tuberculosis, and barium studies, ultrasonography and CT scanning are often indicated, although non-specific. Biopsy material, frequently requiring laparoscopy (if available) or laparotomy, is often required to isolate the pathogen. An abdominal mass is assumed malignant until proved otherwise and may co-exist with abdominal tuberculosis. Although mortality was previously reported to be 35–40% (Goudarzi, H. A. & Mason, L. B. (1982); Jakubowksi, A., Elwood, R. K. & Evanston, D. A. (1988); Clinical features of abdominal tuberculosis. Journal of Infectious Diseases, 158, 687–692), it is difficult to categorize abdominal tuberculosis of milk products contaminated by M. bovis today is unknown. The importance of culturing all suspect biopsy material as well as laboratory specimens, and obtaining mycobacterium species diagnosis, must be addressed, (by cost-benefit analysis) in the diagnosis of complex fever patients in Egypt.

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References

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