CASE REPORT

MILIARY TUBERCULOSIS WITH UNUSUAL MATTED GIANT MESENTERIC LYMPH NODES

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Abstract. We report a case of miliary tuberculosis in a 10-month old female with unusual matted giant mesenteric lymph nodes. She presented with prolonged fever and poor feeding for two months. With the evidence of miliary pattern in chest X-ray and the positive acid-fast bacilli from the sputum, she was treated with antituberculous chemotherapy. She died from pneumomediastinum and pneumopericardium. Post-mortem findings disclosed miliary tuberculosis involving major organs. Acid-fast bacilli were numerous. Large matted mesenteric lymph nodes measuring $10 \times 6 \times 5$ cm^3 were noted. A strikingly large palpable matted mesenteric lymph nodes in suspected miliary tuberculosis should not be confused with tumors in the children.

Miliary tuberculosis is not uncommon in the third world countries. While it is primarily considered a pulmonary disease, tuberculosis has the potential to infect almost every organ system via lymphohematogeneous dissemination during the initial pulmonary infection (Elder, 1992). Intestinal tuberculosis is now considered rare. The ileocecal area and jejuno-ileum are the most common sites of tuberculous involvement of the gastrointestinal tract (Marshall, 1993). Mesenteric lymph nodes may be involved in miliary tuberculosis but to date large matted mesenteric lymph nodes caused by tuberculosis has not been reported.

A 10-month-old female was admitted to the hospital with a two-month history of fever and poor feeding. On examination, she looked emaciated. The body weight was at tirtiary level of protein calory malnutrition. Auscultation revealed course crepitations in both sides of the chest. The abdomen was distended. Multiple small round matted masses were palpated at the abdomen. Each mass measured about 1-3.5 cm in diameter.

Pertinent hematologic tests included leukocytosis (22,400 cells/mm^3) with predominantly polymorphonuclear cells (84%). Blood chemistries showed hypoalbuminemia (21.4 g/l) and increase in plasma alkaline phosphatase (123 IU/l). Anti HIV screening for both parents and the patient revealed negative results. Chest x-ray showed diffuse minute nodularities and cavitation at right middle lobe of the lungs, highly suggestive of miliary tuberculosis. The parents had normal chest films. Computer tomographic scan of the abdomen revealed an ill-defined mass and matted intestines. Sputum examination showed acid-fast bacilli on direct smear.

In the ward, antituberculous chemotherapy was administered. She was rather dyspneic and needed ventilatory support. The abdomen became more distended. She later developed acute respiratory distress syndrome and subsequently barotrauma with pneumomediastinum and pneumopericardium. Her condition deteriorated and expired 5-days after admission.

A whole body autopsy was performed two hours after death with written permission from the patients's father. Gross pathology showed several minute tubercles in both lungs, liver, spleen, kidneys, bone marrow and serosal surface of the small and large intestines. The segments of small intestine were incorporated within the large matted mesenteric lymph nodes, which measured $10 \times 6 \times 5$ cm^3 (Fig 1). Each lymph node mass was white, rubbery to firm, with central caseation. The mucosal surface of the intestines displayed transverse shallow ulcers (Fig 2) which coincided with the minute tubercles at the serosal surfaces. The segmental ulcerations were confined in the jejunum, ileum, cecum and ascending colon, predominantly seen in

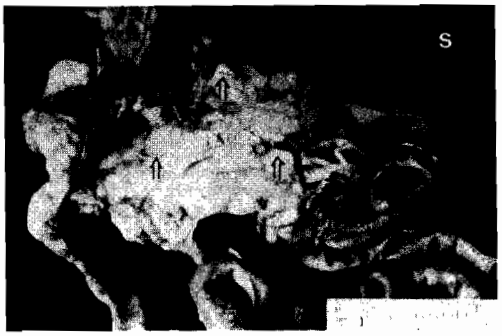

Fig 1–A large matted mesenteric lymph nodes with adhesion of small intestine. Note the central caseation of the lymph nodes (⇑). P- pancreas, S- spleen.

Fig 2–Transverse ulcer of terminal ileum in miliary tuberculosis.

the ileocecal area. Adhesions of intestinal walls were observed. The hilar and paraaortic lymph nodes were also enlarged and showed central caseation.

Histologically, caseous granulomatous inflammations were seen in lungs, liver, spleen, kidneys, bone marrow, small and large intestines, vermiform appendix and lymph nodes (thoracic and abdominal). Numerous acid-fast bacilli were detected within the areas of necrosis and within the histiocytes composing the granulomas.

Tuberculosis is caused by the agent *Mycobacterium tuberculosis*. Miliary tuberculosis can present with non-specific clinical manifestations and usually the outcome associated with the disease is poor. The dissemination is most likely from the seeding of acid-fast bacilli from the lungs and hilar lymph nodes into major lymphatics, to the venous circulation and finally to various organs. Mesenteric lymphadenitis comprises about 10% of abdominal tuberculosis (Das and Shukla, 1976; Bhansali, 1977; Jakubowski *et al*, 1988) but massive enlargement of the matted mesenteric lymph nodes is an unusual finding in a 10-month old infant. The enlargement is mainly due to caseous granulomatous inflammation of the mesenteric lymph nodes. Intestinal tuberculosis with intestinal adhesion was also severe in this case. Intestinal tuberculosis can occur as a single entity (Fakuya *et al*, 1989) or in association with pulmonary tuberculosis (Das and Shukla, 1976; Hiatt, 1978). An abdominal mass palpated on physical examination may cause clinical confusion for tumor in the childhood. Awareness and high index of suspicion are important for prompt diagnosis and treatment. However, the rapid evolution of the disease, which was complicated by acute respiratory distress syndrome, pneumomediastinum and pneumopericardium contributed to the patient's death in spite of antituberculous chemotherapy.

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