Axillary lymphadenitis due to *Mycobacterium avium-intracellulare*

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Summary

A 5-year-old girl presented with a swelling in the right axilla from which *Mycobacterium avium-intracellulare* was cultured. The gland was excised and she made an uneventful recovery.

KEY WORDS: lymphadenitis, *Mycobacterium avium-intracellulare*.

Introduction

The avium-intracellulare group of *Mycobacteria* is a well-recognised cause of cervical lymph node infection in children. Nodes at other sites, such as the submandibular region and the groin, are less commonly involved. In an intensive search of the literature, Lincoln and Gilbert (1972) found only 9 cases of axillary lymph node disease in children which were caused by non-tuberculous mycobacteria.

Case report

A 5-year-old girl presented with a 3-day history of a painful swelling in the right axilla. Examination revealed a large mass of matted lymph nodes measuring 4×3 cm. No other nodes were involved and she was otherwise in good health. Investigations showed a haemoglobin concentration of 12.9 g/dl, white cell count 6.7×10^9 /litre, erythrocyte sedimentation rate 7 mm in first hour. Chest X-ray was normal. A provisional diagnosis of staphylococcal lymphadenitis was made and she was treated with cloxacillin. One week later, the size of the mass was unchanged and a discharging sinus was now present. A Mantoux test was strongly positive at 1:10000 dilution (equivalent to one unit of tuberculin). The mass was biopsied and histology showed caseating tuberculous granulation tissue with numerous epithelioid cells, Langhans' giant cells and lymphocytes. Ziehl-Neelsen and auramine staining for acid-fast bacilli were negative, but culture yielded a *Mycobacterium* of the avium-intracellulare group, sensitive only to ethionamide and cycloserine. Anti-tuberculous therapy was begun whilst the results of culture

were awaited and the patient was started on isoniazid, 150 mg b.d., and rifampicin, 200 mg b.d. This was discontinued after only 4 days when the patient was readmitted with severe vomiting and found to have abnormal liver function tests.

After 7 weeks the tests returned to normal and the entire axillary mass was then excised. Two months later, the patient remained well, the wound was fully healed and there was no evidence of further lymph node enlargement.

Discussion

Mycobacterium avium-intracellulare causes 2 distinct forms of disease in man. Most cases in adults occur as pulmonary disease, usually affecting middle-aged men with pre-existing lung damage. In young children, it most commonly causes infection of the cervical lymph nodes. Clinically, lymphadenitis due to non-tuberculous mycobacteria differs from that caused by *M. tuberculosis*. It has been suggested by Lincoln and Gilbert (1972) and Wolinsky (1979) that the following features indicate infection with acid-fast bacilli other than *M. tuberculosis*: (1) adenitis in a child 1-4-years-old; (2) no history of contact with a tuberculous person; (3) non-reactive tuberculin tests in siblings; (4) normal chest X-ray; (5) failure of appreciable response to anti-tuberculous drugs; (6) early suppuration; (7) unilateral lymph node enlargement. The patient described here was aged 5 years. Her 8-year-old sub-normal brother was not tuberculin tested. The unacceptable side effects caused by the drugs meant that response to chemotherapy could not be assessed. In other respects, her disease fulfils the above criteria.

Diagnosis depends upon culturing the organism from the affected gland. Differential skin testing using antigens prepared from the avium intracellulare group and PPD is often helpful but cross reactions may occur (Wolinsky, 1979; Chapman, 1982).

It is important to distinguish infection due to *M. avium-intracellulare* from tuberculosis because the

two diseases present fundamental differences in their epidemiology and management. *M. avium-intracellulare* is resistant to most anti-tuberculous drugs and the treatment of choice is excision of the gland.

M. avium-intracellulare is widely distributed in the environment, in soil, house dust, water and in domestic animals. Meissner and Anz (1977) pointed out that chickens and wild birds are the natural hosts of certain types of *M. avium* and suggested that they were an important source of human infection. Human infection is thought to result from inhalation, ingestion or direct inoculation of the skin through minor abrasions. As the organism is derived from the environment, tracing and surveillance of contacts is unnecessary.

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