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Case Report

Not All Cervical Lymphadenopathy in Children are due to Human TB

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Abstract

Childhood tuberculosis is one of the commonest forms of Tuberculosis (TB) in India and Multi Drug Resistant (MDR) and Extremely Drug Resistant (XDR) Tuberculosis is on the raise. One of the common causes of resistance to any drug is generally overuse and also misuse of the drug. The author describes a case of childhood TB which was diagnosed in Perth, Australia with various tests-and identified this child as suffering from Atypical Avian Mycobacteria or Rapid Growing Atypical Mycobacteria (RGAM)-and treated with simple Clarithromycin rather than with standard anti-TB drugs. Despite the heavy load of TB in India-the author describes the second case, where it was diagnosed on clinical grounds in India, but still tests are not available to diagnose these and most cases are prescribed standard anti-tubercular drugs. Could this be the cause of drug resistance and raise in TB?

Keywords: Tuberculosis; Rapid Growing Atypical Mycobacteria; Cervical Lymphadenopathy; Montoux Test (PPD test)

Abbrivations: TB-Tuberculosis; RGAM-Rapid Growing Atypical Mycobacteria; CL-Cervical Lymphadenopathy

1. Introduction

Tuberculosis is a disease known to mankind for over a few decades, but still the disease burden suffered by young children is rarely appreciated because of difficulties in establishing an accurate diagnosis in resource limited settings. One of the major diseases affecting children throughout the world is tuberculosis. According to WHO, there are approximately 1 million new cases and 400,000 deaths per year due to tuberculosis [1], although the exact number of annual cases are unknown. A large amount of childhood cases is undiagnosed and untreated and they can be salvaged if there were improvements in treating and diagnosing the children.

A lot of experts in the field feel that children have been left out in the global effort to control tuberculosis. A number of reasons are responsible for this including the fact that most children with tuberculosis are not considered to be as important as adults because childhood tuberculosis is not infectious, the frustration in the difficulty in establishing a microbiological diagnosis of tuberculosis in children, and the neglect of paediatricians and researchers in studying childhood tuberculosis [2]. There is concrete scientific evidence supporting simple practices which, if adequately put into place, would substantially improve the diagnosing and treatment ability of children with tuberculosis [3, 4].

2. Case 1

A two-year-old child presented to the Paediatrician with a swelling in the right side of the neck of 2 days duration. She was afebrile, born to non-consanguinous parents of Indian origin-but the child had been born in Australia and had NOT visited India yet. The swelling was non-tender, firm, not adherent to skin or underlying structures-suggestive of cervical lymphadenopathy. There were no focus of infection, and the child was otherwise well. The infectious disease people advised the child to be investigated with Montoux test for human TB and also for Avium TB, along with fine needle aspiration biopsy (FNAB) along with Chest X-ray (CXR). The investigations revealed normal CXR, with normal reaction for human TB but +ve result with 20 mm induration for Avium TB and the FNAB showed granulomatous inflammation consistent with atypical mycobacterial infection and the culture grew atypical mycobacteria intracellularae consistent with mycobacterium avium within 3 days of culture, sensitive to Clarithromycin MIC 0.38 mg/L. The child was treated with oral Clarithromycin for 3 months and the swelling resolved within 3 weeks, and child has been asymptomatic now for the last 7 years.

3. Case 2

A three year old child born to non-consanguinous parents presented with a neck swelling, which the parents had noticed for last 4 days. She had no fever, no systemic symptoms apart from the neck swelling. The local family practitioner had treated with oral co-amoxyclav for 1 week without any benefit. The parents came for a second opinion. Since the Montoux for avium TB was not available in India-the child was investigated with CXR and Montoux for human TB-both of which were normal. The FNAB showed granulomatous inflammation suggestive of atypical mycobacteria, but culture grew no organisms. The child was treated with oral clarithromycin for 3 months. The neck swelling disappeared after 2 weeks and the child has been asymptomatic for 3 years now with no recurrences of any form primary complex.

4. Discussion

Cervical lymphadenopathy is one of the commonest problems in Pediatric practice [5]. A painless cervical mass including multiple matted nodes is the most common extra thoracic manifestation of childhood TB. A clinical algorithm identifying children with cervical lymphadenopathy longer than 4 weeks (persistent) without a local cause and response to first-line antibiotics is suggestive of TB. But accurate diagnosis is essential to properly rule out other causes such as Burkitt's lymphoma, among other causes [6]. Fine Needle Aspiration Biopsy (FNAB) is useful in establishing a definitive diagnosis. In places where milk is consumed without pasteurization, and where the control of TB is poor, Bovine TB is very common. Generally human TB is very slow in presentation and any cervical

swelling which is of rapid onset with no response to routine antibiotics should rise the suspicion of atypical mycobacteria like mycobacterium avium.

Cervical lymphadenitis caused by atypical mycobacteria also called Non-tubercular mycobacteria (NTMB) is much more common than once thought. Rampant use of anti-tubercular drugs in treating these may be unwarranted and also increase the resistance of the tubercular bacilli to the same. Simple macrolides like Clarithromycin alone used for 8 to 12 weeks has been shown to be very effective in rapid resolution of the cervical lymphadenitis without even requirement of surgery [7, 8].

The differentiating points for diagnosing NTMB in children is rapid onset of the swelling, generally 2 to 3 days and in children less than 5 years, with no h/o exposure to any open TB in the family and FNAB showing granulomatous inflammation [9]. Ideally Montoux test for mycobacterium avium should be available in countries like India to differentiate these from human TB as the diagnostic accuracy increases with this and unnecessary use of anti-tubercular therapy is avoided [10].

References

1. Marais BJ, Gupta A, Starke JR, et al. Tuberculosis in women and Children. Lancet 375 (2010): 2057-2059.
2. Rodriguez-Coste MA, Chirca I, Steed LL, et al. Epidemiology of RapidlyGrowing Mycobacteria Bloodstream Infections. Am J Med Sci 351 (2016): 253-258.
3. Tebruegge M, Pantazidou A, MacGregor D, et al. Nontuberculous Mycobacterial Disease in Children-Epidemiology, Diagnosis & Management at a Tertiary Center. PLoS One 11 (2016): e0147513.
4. Raju RM, Raju SM, Zhao Y, et al. Leveraging Advances in Tuberculosis Diagnosis and Treatment to Address Non-tuberculous Mycobacterial Disease. Emerg Infect Dis 22 (2016): 365-369.
5. Raffaldi I, Scolfaro C, Garazzino S, et al. An atypical deep neck infection in a two-year-old child. Infez Med 22 (2014): 136-139.
6. Yin SM, Ferdman RM, Wang L, et al. Disseminated Mycobacterium kansasii disease in complete DiGeorge syndrome. J Clin Immunol 35 (2015): 435-438.
7. Harris RL, Modayil P, Adam J, et al. Cervicofacial non-tuberculous mycobacterium lymphadenitis in children: is surgery always necessary? Int J Pediatr Otorhinolaryngol 73 (2009): 1297-1301.
8. Shah MB, Haddad J Jr. Nontuberculous mycobacteria-induced parotid lymphadenitis successfully limited with clarithromycin and rifabutin. Laryngoscope 114 (2004): 1435-1437.
9. Ding LW, Lai CC, Lee LN, et al. Lymphadenitis caused by non-tuberculous mycobacteria in a university hospital in Taiwan: predominance of rapidly growing mycobacteria and high recurrence rate. J Formos Med Assoc 104 (2005): 897-904.
10. Dünne AA, Kim-Berger HS, Zimmermann S, et al. Atypical mycobacterial tuberculosis--a diagnostic and therapeutic dilemma? Case reports and review of the literature. Otolaryngol Pol 57 (2003): 17-23.