Case study

Childhood Cervical TB Lymphadenitis with Draining Sinuses: A report from high TB burden resource limited setting

Abstract

Though tuberculous lymphadenitis is the most common form of extra-pulmonary Tuberculosis (TB) in children, it is usually overlooked as the main focus is on adult 'sputum positive TB'. This is especially relevant in tribal communitities mostly living in inaccessible remote areas having poor access to health care facilities.

We are presenting here a case of bilateral cervical lymphadenitis with multiple draining sinuses – a fourteen-year-old girl belonging to the high TB burden Saharia tribe in Madhya Pradesh. She was detected through active TB case finding under the ongoing Intensified TB control project in the area and was suceessfully treated as per National Tuberculosis Elimination Program (NTEP) guidelines. The delay in treatment seeking in the present case is a matter of concern.

The findings highlight the importance of focussing on childhood TB especially in high TB burden communities from resource limited settings.

Key words: Extrapulmonary TB, Children, Lymphadenitis

Introduction

The childhood TB remains largely underreported in India. In 2019, the childhood cases constitute 6.3% of the total notified 2.4 million cases in the country[1]. This has serious consequences as about 50% of future adult cases can arise from a pool of undetected and untreated childhood cases[2]. Tuberculous lymphadenitis is the most common form of extra-pulmonary TB (EPTB) in children with cervical lymph nodes as the most commonly affected group of nodes[3]. The diagnosis of TB lymphadenitis is however difficult and remains a challenge especially in resource poor settings.

Tuberculosis is a major health problem in Saharia with a high TB prevalence of 3294 per 100,000 population[4]. The case of TB lymphadenitis presented here is a 14-year-old girl from Saharia tribe in Madhya Pradesh who was detected through active TB case finding as part of the intensified TB control project being carried out in this tribe. The present case highlights the importance of focussing on childhood TB especially in high TB burden communities from resource limited settings.

Case Presentation

The patient was detected through Intensified TB Control Project (ITCP) in Saharia tribe of Madhya Pradesh, which was focused on active case detection through the engagement of community volunteers. The project field supervisor along with community volunteers did the Active Case Finding survey, field supervisor observed a case with symptoms of multiple lymph node with whitish thick fluid started oozing through it. Field supervisor informed to the project scientist about the case who in turn, visited patients' home along with District TB officer (DTO). Project scientist took history of the patient from patient parents followed by informed written consent. The parents informed that this started with a small node on left side five years ago without any symptoms and remained untreated. A private practitioner was consulted three years back after multiple swellings occurred on both sides of the neck. She took antitubercular treatment for 3-4 months but discontinued thereafter as there was no relief and also due to financial constraints. A local healer was consulted after the whitish thick fluid started oozing from the swelling. She took some herbal medicines for 7-8 months without any relief and discontinued again. On examination, it was bilateral cervical lymphadenitis with multiple draining sinuses. DTO clinically confirmed it as case of EPTB and asked parents to get investigated.

With the assistance from the project staff, she was examined at the nearest health facility, the distict hospital in this case. The BCG scar was present. The purulent material was examined by smear microscopy for acid fast bacilli and was negative. Her blood sugar was within normal limits and she was HIV non-reactive. The purulent discharge was examined for *Mycobacterium tuberculosis* (MTB) detection by Cartridge based nucleic acid amplification test (CBNAAT) which confirmed MTB with no resistance detected to Rifampicin. Her X ray chest showed right lower lobe infiltration. There was no past /family history of tuberculosis.

As per pediatric treatment guidelines of National Tuberculosis Elimination Programme (NTEP), she was put on daily directly observed treatment, shortcourse (Daily DOTS) for 6 months. The treatment regimen was a combination of paediatric and adult dose with Rifampicin (R) Isoniazide (H), Pyrazinmaide (Z) and Ethambutol (E) for 2 months and Rifampicin, Isoniazide,

and Ethambutol for 4 months i.e 2HRZ +2E+2HRZE for 2 months and 2HR+2E+2HRE for four months as per NTEP guidelines. She successfully completed the full treatment. The CBNAAT test could not be done at the end of the treatment as there was no discharge from the swelling.

Discussion

Childhood tuberculosis indicate ongoing infection and highlights the performance of TB control activites in the area[5]. It is mostly considered non-infectious which may not be true as substantial yield of active TB disease is reported in EPTB contacts[6]. In addition, it is also associated with high long-term mortality[7]. Childhood TB thus assumes an important place in the overall child survival.

The case described in this report belongs to the Saharia tribe with high TB burden [4]. The severity of the problem can be seen from the fact that there are currently ten cases on TB treatment in this small hamlet of 360 population. A very high TB infection (20.4%) is reported among the children in this tribe[8]. However, the extent of active disease in children remains unknown in the community. The delay in treatment seeking in the present case is a matter of concern as the single node without pain was ignored. Later, the treatment from private practitioner and traditional healer discontinued due to financial constraints. Traditional healers like "Gunia" are usually consulted first in Saharia tribe. This highlights the community perceptions, attitudes and beliefs about the disease and the health seeking in general. As the literacy rate is lower, incorrect knowledge or myths, and misconceptions about TB disease and its medications and treatments are common. Hence it is important to create awareness about childhood TB, it's symptoms and care seeking to avoid delay. Khan et al in a study from Pakistan have also reported the perceptions and beliefs related to tuberculosis[9]. The discontinuation of treatment due to financial constraints highlights catastrophic cost associated with TB in this tribe in spite of free TB treatment available under NTEP. The "catastrophic" costs associated with TB are also reported in other setting[10].

The childhood TB especially TB lymphadenitis is usually overlooked as the main focus is on adult 'sputum positive TB'. There is a need to give emphasis on childhood TB as well especially in high TB burden communities. Since obtaining sputum sample is difficult in children and also due to challenges in diagnosis of Extrapulmonary TB, it is sometimes difficult to confirm TB microbiologically. This is recognized in NTEP algorithm for Pediatric TB diagnosis and alternative modalities like X-ray, Tuberculin skin test and clinical interpretation are incorporated. As communities in rural and remote areas does not always seek for treatment in these cases the multipurpose health workers may be trained in identifying TB lymphadenitis in tribal areas. Awareness raising campaigns involving community leaders would be useful in educating children and the community on childhood tuberculosis.

Ethics approval:

The study has been approved by Institutional Ethics Committee (IEC) of ICMR-NIRTH, Jabalpur (No:NIRTH/IEC/2273 dated 25 October 2016). The parents of the patient have consented for the publication and authors are bound to protect the anonymity.

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Figure: Cervical lymphadenitis in a girl from tribal area