LETTER TO EDITOR

SPUTUM POSITIVE MILIARY TUBERCULOSIS IN DOWNS SYNDROME

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To,
The Editor,

In the present journal, acid fast bacilli (AFB) in a child with Down's syndrome and miliary tuberculosis (TB) was reported and the authors have questioned how common is AFB in miliary TB. (1) The answer seems to be related to the immune dysfunction, as well as deficiency that is known in children with Down's syndrome. (2) We also present a similar case of Down's syndrome with miliary TB and presence of AFB on smear and elucidate on the pathogenesis of this disease.

A 10-year-old boy with Down's syndrome presented to the emergency department with fever (101-102 °F) and cough for past one month. For past one week, there was increasing respiratory distress for which he was treated elsewhere as pneumonia on an outpatient basis but had no response. In the emergency department, he was detected to have respiratory failure and required intubation and mechanical ventilation. Chest X- ray done at admission showed miliary shadows and erythrocyte sedimentation rate (ESR) was 115 mm at the end of one hour. There was no history of contact with a patient with TB. Mantoux test was negative, however, sputum for AFB was positive on smear. He was started on 4 drugs anti-tuberculous therapy (ATT). The child showed rapid improvement and was extubated on day 5 and discharged on day 13 of a hospital stay. In comparison to general population, there is an increased incidence of respiratory tract infections in children with Down's syndrome. In these patients every arm of immune system shows evidence of dysfunction or dysregulation, however, in particular, there is marked derangement of number as well as the activity of NK cells and T cells (CD4+ as well as suppressor T cells). (2) Patient with miliary tuberculosis have very low concentration of AFB as compared with cavitary tuberculosis (3), thus are few chances of getting a positive AFB in miliary TB when compared with cavitary tuberculosis. However, in immunocompromised states, there will be very high bacterial loads and one has fair chance to isolate AFB in sputum. (4) As we know there is associated T cell dysfunction in Down's syndrome, so there should be more incidence of TB in Down's syndrome, however; no data has so far shown the difference in the incidence of tuberculosis in this syndrome and the general population. (5) More studies are needed in this population to understand this paradox.

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