Childhood Tuberculosis

Pages with reference to book, From 88 To 89

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About eight million people developed tuberculosis iii 1990 and 2.6 to 2.9 million people died of it, mostly in Asia It is estimated that one third of the world's population (1700 million) is infected with Mycobacterium tuberculosis[1]. The disease is not limited to Asia alone and its prevalence is increasing in developed countries also where it is linked to Acquired Immune Deficiency Syndrome (AIDS)[2]. The disease is more common in adults over 50 years of age, in developed countries and under 50 years in Asian and African countries. Tuberculosis in children is uncomnion in developed countries and is encountered, mostly in children living in underprivileged areas[3] or in immigrant population[4]. The prevalence of the disease in children was declining in Europe[5] and United States[6] but due to AIDS, the decline has been arrested. In spite of this fact, a low prevalence of tuberculosis was seen in children with AIDS. InAbidjan, only one childout of78 childrenw ith AIDS was diagnosed to have tuberculosis[7]. The situation in developing countries is different where malnutrition and tuberculosis coexist[8] and the threat of AIDS is imminent. Diagnosis of tuberculosis in children is also difficult[9]. Mostly, the cases are diagnosed on clinical evidence alone as isolation of Mycobacteria is difficult due to non-availability of sputum. In addition, the notification system is either not present or the cases are not notified to the competent authority. Hence, there is hardly any reliable data available from developing countries about the true prevalence of childhood tuberculosis. Recently there have been improvements indiaguostic techniques both in rapid isolation of Mycobacteria[10] and by indirect evidence such as Enzyme Linked Immunosorbent Assay[11,12] and Polymerase Chain Reaction (PCR)[13]. Radiometric system, i.e., BACTEC system gives the results in two to three weeks instead of conventional cultures on Lowenstein Jensen media giving results in six to eight weeks[10]. Of the indirect tests, PCR is so far the most reliable test detecting Mycobacterial DNA with a sensitivity of 40%-90% and specificity of 80%-90%[13-15] and may be done on body secretions and blood.

The treatment of tuberculosis is standardized and the six month regime of short course chemotherapy[16-18] including Pyrazinaniide in the initial two months of therapy is highly effective in all forms of the disease including extra pulmonary diseases suchas tuberculous meningitis[19]. But increasing drug resistance[20] of Mycobactcrium tuberculosis to INH and other drugs poses a problem in the management of childhood tuberculosis due to difficulty in isolating the Mycobacteria and determining their sensitivities to the antitubercular drugs, Compliance to drug therapy is another problem. In a study in Karachi, only about one third of the children receiving antitubercular therapy were followed for six months (unpublished data). This lack of compliance of patients indicates the necessity of directly observed therapy (DOT) which has been successfully used in other developing countries like India and Bangladesh. This approach has been recommended to be adopted in the National Tuberculous Control Programme of Pakistan[21]. Unfortunately, this programme is directed mainly toward sputum producing adult tuberculous patients and children have been included in category III. The approach of targeting only the population, which is responsible for spread of the

disease, is essential for its rapid control but care of future generation should not be compromised. Other significant aspects of this programme are inclusion of thiacetazone and exclusion of rifarnpicin during continuation phase and increased duration of therapy, i.e., eight months. Increased duration of therapy from six to eight months might increase the problem of compliance but will reduce the emergence of resistance of Mycobacteria to rifampicin. in such a situation DOT assumes an important role. Prevention of tuberculosis is also very important. Prevention of tuberculosis lies in case finding and treatment of sputum positive adult patients, which is the targeted population of National Tuberculous Control Program. In spite of this, the role of DCG immunization cannot be overlooked. Though the role ofBCG immunization in neonates and infants inpreventing tuberculosis[22] has been questioned but its role in preventing severe fonus of tuberculosis has not been denied. It is still recommended[23,24] for routine immunization of children in countries with high prevalence of tuberculosis.

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