Editorial

Tuberculosis in Children

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Tuberculosis, one of the oldest and deadliest infectious diseases had a dramatic comeback in the last quarter of the century. WHO declared Tuberculosis (TB) as a global emergency in 1993.[1-3] Though no nation was immune from the disease, the main brunt of the disease was found in the developing countries. The escalating incidence of tuberculosis in Pakistan is due to persistence of poor socio-political conditions, inadequate health care infrastructure, undernutrition, overcrowded living conditions, influx of refugees, rising incidence of HIV/AIDS, and a general apathy towards health and related problems. Pakistan is identified as sixth among the 22 countries of the EMRO region with the highest burden of TB.[4,5] In 2001, the Government of Pakistan declared Tuberculosis as a National Emergency. In 2002 the National Tuberculosis Control Programme (NTP) a project of Ministry of Health (MoH), Government of Pakistan, adopted and initiated the implementation of DOTS programme. The objective of the NTP was to provide 100 percent DOTS coverage by 2005, detecting 70% of all cases and successfully treating 85% of them by 2005 and reducing the prevalence and deaths due to tuberculosis by 50% by 2010. Though the programme has met with measurable success, Pakistan is still far away from reaching its target. One aspect not given due consideration in the DOTS programme is its implementation in children. The diagnosis and managment of Tuberculosis in the young children still remains a challenge for the treating physicians.

Of the eight million cases of TB seen per year globally, 1.3 million are children. Children thus comprise 3-13% of all cases of TB.[4-6] The mortality related to TB is high i.e. 45,0000/year. According to WHO, a sensitive indicator to assess the impact of National Tuberculosis Control Programme, is the prevalence of less than 1% TB infection in children below 14 years, as it measures the current rate of transmission of infection rather than infections acquired in the past. In Pakistan though the exact prevalence of TB in children is not known, according to National Tuberculosis Control Programme data (2001-2004), 4% registered cases of TB are seen in children.[7] This rate is way above the cut off percentage set by WHO. Tuberculosis infects 250,000 adults annually in Pakistan, 25,000 (2.5%) children are at risk of acquiring TB infection. Among those infected 5-10% develop progressive Tuberculosis whereas the remaining 80-90% have latent tuberculosis. Tuberculosis is responsible for 8-20% of all deaths in children.[7]

Despite the advancement in medical technologies, the diagnosis of tuberculosis in children has remained a challenge. This is particularly true for the primary health care providers such as paediatricians and family practitioners who deal with most of childhood illnesses. This is simply because unlike adults there is no "Gold Standard" for the diagnosis of Tuberculosis in children. Children seldom bring forth sputum and haemoptysis is a rare feature in small children. Sputum induction is technically difficult and hazardous and the yield is low. The yield of acid fast tuberculous bacilli is even lower in gastric lavage.[8] The treatment outcome is worse in children with smear negative pulmonary tuberculosis.[9] There is not a single sign or a simple investigation that establishes beyond doubt the diagnoses of TB in children. Even in majority of tertiary care hospitals the highly expensive and sophisticated investigations like PCR and immunodiagnostic facilities are not available. A high index of suspicion is required to diagnose TB in children, a delay in diagnosis may influence the outcome. The problem of diagnosis is more profound in case of pulmonary tuberculosis as the radiological findings may be non-specific in most cases. Different diagnostic approaches have been tried by different workers; none is without its shortcomings. National Control of Tuberculosis Programme (NTP, MoH, and GOP) and the pulmonology group of Pakistan Paediatric Association has prepared guidelines for early diagnosis and management of TB in children.[7] The guidelines have used the combination of four criteria to diagnose TB in children: suggestive clinical features, evidence of close contact with an adult case of Tuberculosis preferably smear positive, tuberculin skin testing showing indurations of >10mm and suggestive radiological findings. The guidelines provide a practical lead towards the diagnosis of TB in children and is an effective tool for physicians working at the small and peripheral hospitals to identify cases of TB at an early stage. This and other guidelines used in various countries are but an attempt to simplify the approach towards the diagnosis of TB in children. There is still a need to develop a gold standard for diagnosing TB in children. Newer research is needed or else on the one hand we will be

missing the cases and on the other hand we will be over diagnosing and over treating the cases.

A number of scoring charts produced by WHO and others are also being used in different countries to improve the case detection rate. NTP guidelines have also included a scoring chart, which is a modification of the Scoring Chart used in India and Pakistan. The reported studies have claimed to be of particular value in detection of TB cases.[10,11] The guidelines need to be field tested on a wider scale to assess their usefulness.

Children and adolescents with latent tuberculosis infection represent the future reservoir of cases of tuberculosis. Early identification, detailed evaluation including Tuberculin skin testing of young children at risk of developing infection is a critical component of Tuberculosis control efforts. This aspect of contact investigations need to be incorporated in the NTP programme.

There is a need to give due importance towards the diagnosis and management of TB in children in the DOTS program being implemented in Pakistan. The emphasis on early case detection and management in adults in DOTS programme will lead to decrease transmission of infection in children. Delaying the diagnosis in children will ultimately add to the adult pool of Tuberculosis. This cycle has to be broken to eliminate this life threatening disease from our country.

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