ORIGINAL RESEARCH PAPER

Pulmonary Medicine

MANAGEMENT OF LATENT TUBERCULOSIS IN PEDIATRIC CONTACTS –A ONE YEAR (JAN2017-JAN18) PROSPECTIVE CLINICAL STUDY

KEY WORDS:

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ABSTRACT

A diagnosis of latent Tuberculosis is also called latent Tuberculosis infection (LTBI). It means a patient infected with M.tuberculosis but the patient does not have active tuberculosis. Treatment of latent Tuberculosis infection (LTBI) is the most effective Strategy to prevent future cases of disease (1). Most cases of childhood tuberculosis disease in low prevalence countries are Prevented by screening for risk factors ,testing for LTBI and offering therapy (2,3) . Regimens for LTBI have been evaluated and used for over 6 decades and concerns about low completion rates (4) ,costs (5) and increasing rates of drug resistance (6) have prompted research on short course LTBI regimens of 3 months in all these regimens and reviewed after 12 months.

INTRODUCTION:

India has the largest number of TB cases. It is estimated by WHO that there are more than half a million cases of TB in children globally each year. Children usually get infected because of adults in the family with active TB. In low and middle income countries like India ,African countries ,TB is an important cause of morbidity and mortality in children .TB in children is difficult to diagnose and easy to miss.Young children can develop extra pulmonary and severe forms of TB such as TB meningitis and Miliary Tuberculosis. Malnutrition is a biggest risk factor in India and Africa for childhood tuberculosis. By detecting and treating LTBI in children, childhood tuberculosis can be prevented . About 90% of people who infected with TB develop LTBI Which means the infected bacteria are alive in the body but not active and such high risk people having chance of childhood TB can be tested and found latent Tuberculosis by Tuberculin Skin Test (TST)(7). Routine testing of all children with Tuberculin test was discouraged and only contact with sputum positive TB who had more chances of Possibility of TB infection (8). Tuberculin Skin Test is preferred and IGRA should not replace TST in low -income and other middle income group of countries (9).

AIM OF THE STUDY :

To detect the rate of LTBI in developing country like India in rural area of konaseema and their treatment response with prophylactic Anti-TB therapy.

OBJECTIVES OF THE STUDY :

1. To estimate the incidence of LTBI in society by Tuberculin Test in all contacts.
2. Management of LTBI with Prophylactic anti TB therapy and prevention of childhood TB .

MATERIALS AND METHODS :

1. To confirm LTBI in all children having contact with positive TB parents ,HIV contacts ,diabetes,malnutrition by Tuberculin skin test.
2. Treat children of LTBI with prophylactic anti TB therapy ,INH alone for 6 months or 9 months or INH+RIF for 3 or4 months(9).
3. Collected data will analyse ,how much active tuberculosis prevented by Treating LTBI with prophylactic anti -TB therapy
4. Any associated immune deficiency disease like HIV ,Diabetes, Malnutrition , cancer patients with TNF treatment and organ transplantation patients (9) can be excluded.

TABLE-1

Regimen	Drugs	Pts.No.Start	Ending	Mortality	Toxicity	Active TB
1	6 INH	50	49	NIL	1	NIL
2	9INH	50	45	NIL	5	NIL
3	3H+R	50	40	NIL	10	NIL

TABLE-2

RECOMMENDED DRUG DOSAGES FOR LTBI TREATMENT REGIMEN:

REGIMEN	DRUGS	DURATION	INTERVAL	COMPLAINCE	SIDE EFECTS	EFFECIENCY
1.6 INH	INH	6MONTHS	DAILY	30-96%	1-10%	30-60%
2.9 INH	INH	9MONTHS	DAILY	20-80%	1-24%	20-30%
3.3 HR	INH+RIF	3MONTHS	DAILY	60-97%	2-64%	50-60%

INH is the drug of choice for treatment of LTBI in children and adolescents. The duration of treatment is 9 month (9)

When there is INH resistance or intolerance, Rifampicin is recommended (10,11).

INH daily dose 10-15 mg /kg body wt ., maximum 300 mg and Rifampicin dosing 10-20 mg/kg body wt ., maximum 600 mg .Pyridoxine (vitamin B6) supplementation is recommended for children for children receiving INH.

CONCLUSIONS:

The estimated prevalence of latent TB infection in India is 40%(10).The decision to initiate therapy for LTBI in children is made easier by the very favorable risk /benefit ratio Three regimens of TB drug have been utilized but only effectiveness of INH alone has been studied extensively in children .INH for 6 months gives more effective results ,60% and by increasing the duration for 9 months will not give any benefit . INH+RIF for 3months also efficacious as INH alone for 6 months but side effects like hepatotoxicity are more .so single INH for 6 months is effective regimen for LTBI prophylactic therapy. There is no development of active childhood tuberculosis in treated cases of LTBI. It requires follow up for one more year to find out active TB .we are not treated latent Tuberculosis in adults with Prophylactic anti -TB therapy in fear of mono drug therapy, results in,INH Mono Drug Resistance and it requires further study.

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