Tuberculous Pleural Effusion and Lymphadenitis Treated with Rifampin-Containing Regimen*

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Rifampin, isoniazid, and ethambutol were administered in single daily dose for nine months to 91 patients with pleural effusion and 45 patients with lymphadenitis, both of tuberculous etiology. Clinical and roentgenographic clearance of pleural effusion was successfully achieved in all cases at the end of nine months of treatment. Followup of 80 cases of pleural effusion up to nine months, in 35 cases up to one year, and up to two years in 30 cases after completion of therapy, showed no recurrence. In the cases of tuberculous lymphadenitis, resolution of lymph nodes occurred in 31 cases (69.8 percent) at the end of nine months of treatment. Therapy had to be extended for varying periods for achieving successful response, and in five cases, medical treatment had to be supplemented with surgical drainage and excision of the nodes. Short course chemotherapy can be used to treat pleural effusion, but the same mode of treatment is less effective for cases of tuberculous lymphadenitis.

Antituberculous therapy for varying periods of six to nine months with rifampin and isoniazid, along with initial supplement of streptomycin/ethambutol, has been found efficacious in the treatment of pulmonary tuberculosis. Additional studies in the literature have shown that the above regimen, particularly containing rifampin, is successful in other forms of tuberculous disease. The results of nine months of therapy using isoniazid, rifampin, and ethambutol in a prospective study in cases of tuberculous pleural effusion and lymphadenitis are reported.

Material and Method

Clinical records and data of 91 patients with pleural effusion and 45 patients with lymphadenitis were critically analyzed. The diagnosis of tuberculous etiology in pleural effusion was established by clinical examination, x-ray films, positive Mantoux test, biochemical analysis of the fluid, and pleural biopsy. Although microbiologic studies were not routinely carried out, satisfactory response of pleural effusion to the treatment regimen was taken as additional supportive evidence of the basic diagnosis. Positive histopathologic findings on biopsy tissue of lymph nodes was taken as evidence of tuberculosis. Both groups of patients received rifampin (R), 10 mg/kg body weight, isoniazid (H), 300 mg, and ethambutol (E), 20 mg/kg body weight, for nine months. All drugs were administered once daily on an empty stomach, in the morning. Pleural effusion was aspirated as needed. Cold abscess formation occurred in five patients of tuberculous lymphadenitis which required surgical drainage.

Antituberculous drugs were purchased by the patients. There were no home visits. All patients, however, were fully compliant in their drug intake. Their clinical progress along with other laboratory tests including chest-x-ray films were closely followed in the outpatient clinic at three-month intervals. The size and number of lymph nodes were noted throughout in patients with lymphadenitis.

Results

Pleural Effusion

There were 67 male and 24 female subjects, their ages ranging from 15 to 80 years. Pleural effusion was massive in 17 cases and moderate to minimal in the rest. Two patients had minimal pulmonary infiltrates (smear and culture negative). Four out of 91 patients did not complete nine months of treatment with us. However, at the third and fourth month of therapy, their chest x-ray films had shown complete clearance of effusion. In the remaining 87 cases who completed 36 weeks of therapy, complete response was seen in all 87 cases. Follow-up after the end of 36 weeks of therapy was available as follows: 36 weeks in 80 cases; 52 weeks in 55 cases; and two years in 30 cases. None of the patients had any recurrence of the effusion and all remained clinically healthy and disease-free. Minimal pleural thickening was observed in 12 cases on roentgenographic examination.

Tuberculous Lymphadenitis

There were 23 female and 22 male subjects in this group aged between 14 to 60 years. The lymph node total size varied between 2 and 8 cm, the average being 5 x 5 cm. More than one gland was involved in all patients in a particular area, and the average number was four. All the patients had cervical lymphadenitis. In addition, nine had mediastinal glands and two had axillary lymphadenitis. Two patients had minimal infiltrates (smear and culture negative).

Follow-up was available (after 36 weeks of therapy) in 30 cases for two years or more, in seven cases for one to two years, and three months to one year in ten cases. Complete disappearance of all lymph nodes occurred.

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by the 36th week of therapy in 31 patients (68.8 percent). Therapy was extended up to 48 weeks in the remaining 14 cases. At the end of this period, five more patients showed further clearance of lymph nodes. Thus, at the end of 48 weeks, 36 out of 45 cases (80 percent) had no palpable lymph nodes. Extension of treatment to 18 months resolved the glands in two of the remaining nine cases, and in three patients, new glands appeared while they were still receiving treatment. No side effect of drugs was noted in either group.

D I S C U S S I O N

Clinical experience with rifampin-containing regimens (short course chemotherapy) in patients suffering from extrapulmonary tuberculosis is limited. In a large series of patients suffering from extrapulmonary tuberculosis, Dutt et al.2,3 found highly effective results in cases of tuberculous pleural effusion and lymph node tuberculosis, using isoniazid and rifampin for nine months. Bakir and Sabri4 studied 18 cases of tuberculous serositis and all responded to short course chemotherapy. The British Thoracic Society Research Committee reported5 the results of short course chemotherapy with isoniazid and rifampin with initial supplement of ethambutol in 56 cases of tuberculous lymphadenitis, and the results were compared with 57 cases who received conventional therapy for 18 months. Enlargement of nodes, appearance of new nodes, and fluctuation and formation of sinuses were similar in both groups of patients. The conclusion reached by the British Research Committee5 was that nine months of treatment with rifampin and isoniazid, supplemented initially by ethambutol, should be adequate for tuberculosis of lymph nodes, but confirmation must wait until after a longer period of follow-up. Dutt et al.,2 on the other hand, found good results with isoniazid and rifampin in tuberculous lymphadenitis.

The results of the present study indicate that treatment with isoniazid, rifampin, and ethambutol for nine months was effective in pleural effusion of tuberculous etiology. However, this regimen was not entirely satisfactory in cases of tuberculous lymphadenitis. Appearance of new lymph nodes, softening due to caseation, and external drainage was seen in five patients when they were receiving treatment. The variable response as seen in our cases of tuberculous lymphadenitis is difficult to explain. Poor penetration of drugs into the lymph nodes and/or preexisting abscess formation might be responsible for failure of therapy to control the disease effectively. There is documentary evidence in Indian literature that the majority of cases of tuberculous lymphadenitis is due to Mycobacterium tuberculosis var. hominis.6 As opposed to this, some studies have shown growth of atypical mycobacteria, particularly M. scrofulaceum from the lymph nodes.7,8 Infection with atypical mycobacteria may be one factor for poor response to the drug regimen for tuberculous lymphadenitis as seen in our study.

In conclusion, our study showed that 36 weeks of therapy with a rifampin-containing regimen can be safely given to patients with tuberculous pleural effusion. The same treatment, however, could not be recommended in cases of tuberculous pleural effusion. Further, we feel that the role of ethambutol administration for a full nine months needs reevaluation, particularly when studies from other countries have shown adequate response to isoniazid and rifampin.2,3

R E F E R E N C E S

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