Short Communication

J. Med. Sci., 6 (4): 698-700
July-August, 2006

Characteristic of Pulmonary Tuberculosis Patients in Golestan Province of Iran, 2002-2005

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As the Golestan province has been known as a high prevalent region for TB in Iran; present study was conducted to evaluate TB status in the province. Samples of sputum were obtained from 1205 pulmonary patients. All isolates initially confirmed by ziehl-neelsen's staining. The collected data were analyzed by SPSS analytical software. A total of 1205 cases of pulmonary TB patients were identified during the study period. 642(53%) were males and 563(47%) females. Eighty present (80%) of cases had fever. Sputum had been shown to be in 79.6% of cases that in 20% of them it was bloody. Ninety-three present (93%) of cases had a history of coughing for more than 3 weeks. Twenty-five present (25%) had a history of TB in their families. BCG vaccination related scar was seen in forty-five present (45%) of cases. Tuberculosis has a higher incidence rate in the area and is more common in females than in males. Reoccurrence (recurrence) of TB seems to be higher in females than males. So it is essential to health care deputies to consider this group (females) as a high-risk group and to consider each contracted family; because of high family history of TB as a major risk factor. In addition to low occurrence of scar lesion following BCG vaccination, it is also needed to conduct better popular trends on vaccination strategies.

Key words: TB, Ziehl Neelsen's stain, hemoptysis, positive smear

JMS (ISSN 1682-4474) is an International, peer-reviewed scientific journal that publishes original article in experimental & clinical medicine and related disciplines such as molecular biology, biochemistry, genetics, biophysics, bio-and medical technology. JMS is issued six times per year on paper and in electronic format.

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INTRODUCTION

Although TB is known as an ancient disease of our planet; but has still remained as a serious health problem all over the world (Senol *et al*., 2003). Almost one third of populations are infected with TB and almost 3 million people death is reported annually (Opravil, 1997; Fanning, 1998; Hershfield *et al*., 2000). Because the majority of the infected cases (80%) are active age groups (15 up to 54 years old); TB affects not only the populations' health; but also limits the developments of the countries (World TB Day, 2003). In recent two decades, incidence of TB is increased probably due to migrations from endemic areas and also due to increased tendency of immunosuppressant and HIV patients (Galois *et al*., 2003). Inadequate life styles and increased resistance of agents against antibiotics have also triggered the problem (Buchi and Grossenbacher, 2000). Tuberculosis prevalence in Iran is about 39 cases in 100000 (WHO 2003). As Golestan province, that located in south-east of Caspian sea where this study carried out, is one of the most prevalent areas for TB in the country, information about the problem can be useful in designing proper fighting projects against TB in this area; so present study was conducted to evaluate pulmonary tuberculosis in involved patients with positive BK smears.

MATERIALS AND METHODS

A total number of 1205 clinically diagnosed TB cases from ten towns of Golestan province that their smears were positive for BK (Ziehl Neelsen's staining method) selected and included in the study. A questionnaire was designated for each case to be filled voluntarily. The questions were focused on demographic and clinical symptoms as presence of cough, sputum, fever and hemoptysis, family history of TB and sex parameters.

RESULTS

Out of 1205 cases, 642(53%) individuals were males and 563(47%) were females. Eighty percent of cases had been faced with fever and 79.6% of them had sputum (20% associated with hemoptysis). In 93% of cases, prolongation time for cough was more than 3 weeks. Family history of TB was seen in 25% of cases (Table 1).

5.5% of studied cases had previously been involved with TB that eighty percent (80%)of them were females; while only 20% were males $p<0.01$ (Table 2). BCG vaccination had been shown to be in 45% of studied cases. Scar lesion was occurred independently in regard to sex status.

Table 1: Frequency of observed characteristic in TB patients with sex in Golestan province

	Number		
	Female	Male	Total
Fever	448(79.5%)	513(79.9%)	961(80%)
Coughing more than 3 week	528(93.7%)	588(91.6%)	1116(93%)
Sputum	485(86%)	501(78%)	986(79.6%)
Bloody sputum	132(23.4%)	113(17.6%)	245(20%)
BCG Scar	226(40%)	303(47.5%)	531(45%)
History of TB in Family	176(31.3%)	128(20%)	304(25%)
Previously involved with TB	53(10%)	13(2%)	66(5.5%)

Table 2: Frequency of TB in male and female in Golestan Province

	Previously involved with TB	
Sex	Number	Percent
Female	53	80%
Male	13	20%

DISCUSSION

Gender distribution in present study showed a male predominance of 1.12 (53 vs. 47%) that was in line with both other parts of country (Masjedi *et al*., 2002) and some other parts of the world (Dye *et al*., 1999); but a small discrepancy was seen in regard with this rate (Tam *et al*., 2003; Arora *et al*., 2003). For example according to a survey in Brazil, involved males were 64% (Bacha *et al*., 2004). It was almost close to the same in some other Asian countries (Fanning 1998; Mohan *et al*., 2003). As the socioeconomic factors may act as an important role; it may need additional studies to capture effective etiologic factors. It was in line with other such studies in consideration with presence of fever, sputum and cough for more than 3 weeks (Masjedi *et al*., 2002; Dye *et al*., 1999; Murali and Kiram, 2004; Long *et al*., 1999). The family history of TB (seen in 25%), was also in line with other parts of Iran and other countries; but it was more than 2 folds (57%) in Peru (Cama *et al*., 2001). Previously involvement rate seen in present study was five point five percent (5.5%) that was very much lower rate in comparison with other parts such as Holland (Soeters *et al*., 2005) that can be interpreted due to immunologic conditions of studied cases. Among this group (previous history of TB), only twenty percent were males; while it was eighty percent in males, respectively. This fact seems to be so serious to be considered; because it may dependent on some general and specific conditions in females' life as malnutrition, socioeconomic conditions, pregnancy and feeding of child that in turn may affect their immune system. It would be important to consider females as high-risk group and to conduct further studies to capture possible ecologic factors.

SUGGESTIONS

Tuberculosis has both higher incidence rate in the area and absolutely female predominance in consideration with recurrent episodes of the disease among these group individuals. So it is suggestible to health resources: 1) To consider this group as a high risk one and 2) To consider these group individuals as a target group for making developments in their life styles and nutritional states. 3) To consider fact of low occurrence of scar lesions to make proper decisions on vaccination trends and follow up controlling programs.

ACKNOWLEDGEMENT

The authors would be thankful of health center staffs of province for their kind assists.

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