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Original Research Article

Study of Epidemiological Profile of Sarcoidosis in a Tertiary Care Hospital in Northern India

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ABSTRACT

Background: Sarcoidosis is an ill-defined syndrome of unknown etiology involving abnormal collection of chronic inflammatory cell (granulomas) that can form as nodules in various organs. Sarcoidosis most commonly affects young adults of both sexes, although studies have reported more cases in females. Incidence is highest for individuals younger than 40 and peaks in age group from 20-29 years, a second peak is observed for woman over 50 years.
Materials and methods: The present study was carried out in Post Graduate department of Internal Medicine, Government Medical College, Jammu for a period of one year from November 2013 to October 2014.Patients were recruited from indoor wards of general medicine, indoor wards of pulmonology units, outpatient clinics, pulmonology clinics and emergency department of Government Medical College for a period of one year.
Results: In our study, 30% patients had been misdiagnosed as TB and had taken
ATT before. In our study also 80% of sarcoidosis patients were more than 40 year of age. Besides we found a slight female (66.67%) preponderance.

Key words- Sarcoidosis, granulomas, cough, serum ACE levels.

INTRODUCTION

Sarcoidosis (from sarc meaning "flesh", - oid, "like" and osis "diseased or abnormal condition), also called sarcoid, Besnier-Boeck disease or Besnier-Boeck - Schaaumann disease, is an ill-defined syndrome of unknown etiology involving abnormal collection of chronic inflammatory cell (granulomas) that can form as nodules in various organs.
The hallmark of Sarcoidosis is the development and accumulation of non-caseating granulomas in any organ system Baughman RP *et al*. 2001. [(1)] The etiology of Sarcoidosis has yet to be attributed to a single factor. The cause of sarcoidosis is still obscure, continues to elude us and remains an enigma. It is also not clear wether sarcoidosis is caused by a single agent, several related agents, or multiple factors. The heterogeneity of the disease suggests that multiple causative agents may be responsible for the variable disease manifestation of Sarcoidosis Martinetti M *et al*. 1995. [(2)] The disease is often self limited however some cases with severe disease and multi organ involvement may have significant debilitation and can even be life threatening. Mortality from sarcoidosis is usually caused by respiratory failure approaches 1- 5% Hung CT *et al*. 1981. [(3)] Sarcoidosis most commonly affects young adults of both sexes, although studies have reported more cases in females. Incidence is highest for individuals younger than 40 and peaks in age group from 20 – 29 years, a

second peak is observed for woman over 50 years. In a study from eight countries of Asia and Africa in 1976, fewer than thirty patients were reported from India, Malaysia, Thailand, Taiwan and United Arab while none from Singapore and Korea Hosoda Y *et al*., 1976. [(4)]

In the recent years there has been increasing reports from countries like India Jindal SK *et al*., 2000. [(5)] Reports have also mentioned the increase in incidence of sarcoidosis in recent years was probably related to decrease in infectious disease especially Tuberculosis Gupta D *et al*., 2009(6). [(6)]

MATERIALS AND METHODS

The present study of "Clinical profile of sarcoidosis patients" was carried out in Post Graduate department of Internal Medicine, Government Medical College, Jammu for a period of one year from November 2013 to October 2014.

Subjects /Patients population

Patients were recruited from indoor wards of general medicine, indoor wards of pulmonology units, outpatient clinics, pulmonology clinics and emergency department of Government Medical College for a period of one year. All eligible patients were explained the purpose of study and after getting full consent participated in the study.

Inclusion criteria

1. Age >18 years
2. Patients having symptoms (Dyspnea, cough, chest pain, skin lesions, eye symptoms, arthritis etc.) highly suggestive of sarcoidosis.
3. Chest X-Ray P/A view showing bilateral hilar lymph adenopathy and reticular nodular shadows.
4. Patients already with a positive biopsy showing non caseating granulomas.

Exclusion criteria

1. Age<18 years.
2. Positive Mantoux test.
3. Patients already with a biopsy showing features of some other disease.

All patients were subjected to detailed clinical history and physical examination. Detailed systemic examination of every system was done as per proforma. A detailed history was recorded and physical examination was performed in all the patients at the time of initial presentation. Laboratory investigations including hemogram, chest radiograph, and sputum smear examination for acid fast bacilli, Mantoux test, pulmonary function testing(PFT), electrocardiogram, laboratory tests like serum calcium and serum angiotensin converting enzyme (ACE) levels. Chest radiograph and high resolution computed tomography (HRCT) was performed in most of the patients. Fibreoptic bronchoscopy (FOB) and transbronchial lung biopsy (TBLB) was performed in patients willing for the procedure and if they were physiologically fit. In patients who were either not fit to undergo FOB or refused to undergo the same, the diagnosis was made on clinical, laboratory and radiological features.

RESULTS AND DISCUSSION

Table1: Distribution of Patients According to Gender.

Gender	No. of patients(n=75)	
	No.	Percentage%
Male	25	33.33
Female	50	66.67
Total	**75**	**100.00**

Female constituted major gender group (66.67%) as compared to males (33.3%).

Table 2: Distribution of Patients According to Various Age Groups

Age group (in years)	No. of patients (n=75)	
	No.	Percentage%
<30	5	6.67
30-40	10	13.33
40-50	30	40.00
50-60	20	26.67
60-70	8	10.67
>70	2	2.66
Total	**75**	**100.00**

80% of patients were above 40 years of age.

Table 3: Distribution of Patients According to Smokers and Non- smokers.

Smokers/Non smokers	No. of patients (n=75)	
	No.	Percentage%
Smokers	15	20.00
Non- smokers	60	80.00
Total	**75**	**100.00**

80% of our patients were non-smokers.

This study was one year prospective study on indoor and outdoor patients of Government Medical College, Jammu from November 2013 to October 2014. A total of 75 patients were taken in this study. The true burden of sarcoidosis in India is not clearly known due to under reporting caused by its resemblance to TB. In our study, 30% patients had been misdiagnosed as TB and had taken ATT before.

Deepak *et al.* 2000 [(7)] and Kumar *et al.* 2012, [(8)] observed sarcoidosis to be more common in person aged more than 40 years. In our study also 80% of sarcoidosis patients were more than 40 year of age. However studies done globally by Catherine Chapelon *et al.* 1986, [(9)] observed sarcoidosis to be more common in adults under age 40 and peaks in those aged 20 – 29 years.

Studies done globally by Catherine Chapelon *et al.* 1986, and McGrath *et al.* 2000, [(10)] reported a female preponderance in sarcodosis, where as Indian studies done by Deepak *et al.* 2000, [(7)] reported a male preponderance. But in our study we found a slight female (66.67%) preponderance.

Till date the most accepted proposed pathogenic hypothesis is that various antigens could promote sarcoidosis in genetically susceptible individuals. It appears to occur more frequently in non-smokers. Various studies done so far by Douglas *et al.* 1986 [(11)] observed inverse relationship between smoking and sarcoidosis. In our study also majority of patients (80%) were non smokers.

Gupta SK *et al* .1985 [(12)] reported familial sarcoidosis from India also. In our study familial involvement was not observed in any of the patients.

CONCLUSIONS

This study showed that in region with high tuberculosis burden diagnosing sarcoidosis poses a substantial health challenge. However new cases of sarcoidosis are increasingly diagnosed in Tuberculosis endemic areas in recent years due to increased awareness and better availability of diagnostic modalities. Also this study showed that sarcoidosis in our region behaves differently as compared to rest of the world as shown in various western studies. These variations possibly are incidental findings. However the possible reason for variations may be the different designs of the studies and demographic profile of the study population.

Conflicts of interest: None

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