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Research Article

Hospital based observational study to evaluate the Clinical characteristics of Interstitial Lung Diseases (ILDs) patients

[1]Dr. Radhika Sharma and [2]Dr. Punnam Pradeep Kumar
[1]Asstistant Professor, Department of TB & CHEST, Ayaan Insititute of Medical Sciences Teaching Hospital & Research Center, India.
[2]Asstistant Professor, Department of TB & CHEST, Ayaan Insititute of Medical Sciences Teaching Hospital & Research Center, India

*Corresponding Author
Punnam Pradeep Kumar

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Abstract: ***Background***: The term "interstitial lung disease" (ILD) refers to a range of disorders that induce lung scarring (fibrosis). The present study was done to evaluate the Clinical characteristics of Interstitial Lung Diseases (ILDs) patients. ***Material & methods***: This cross-sectional study was conducted at Tertiary Care Teaching Hospital. All consecutive patients of all types of ILDs, attending the outpatient services of the Department of Pulmonary Medicine were enrolment and subjected to focused socio-demographic history. Data was analyzed using Epi info V7 software by applying appropriate statistical tests. ***Results***: The present study includes 68 patients of different types of ILD. Among the study population, 36 (52.9%) were female and 32 (47.1%) were male. The mean age of males and females was 64.615+3.26 years and 56.187+ 5.24 years respectively. Also, there was no significant difference between males and females regarding the duration of illness (2.87 ±2.46 years versus 3.87+2.15 years, p=0.438). Cough was the predominant symptom observed in 66 patients followed by breathlessness mMRC grade II/III in 62 patients. The exertional chest pain was reported by 24 patients. History of syncope was recorded in 20 patients. On examination, a total of 42 patients had clubbing of different grades. Overall, sixteen patients had raised JVP. Velcro crackle was detected on auscultation among 38 patients. There was no significant male-female difference with regards to symptoms. ***Conclusion***: Most of ILD patient's had cough, breathlessness mMRC grade II/III, exertional chest pain, history of syncope, clubbing, raised JVP and Velcro crackle on auscultation.

Keywords: Interstitial lung diseases (ILD), Clinical characteristics.

INTRODUCTION

The term "interstitial lung disease" (ILD) refers to a range of disorders that induce lung scarring (fibrosis). Scarring in the lungs produces rigidity, making it harder to breathe and get oxygen into the bloodstream. ILDs cause irreparable lung damage that worsens over time.1
The most common symptom of all ILDs is shortness of breath at rest or aggravated by exertion. This is often accompanied by a dry cough, chest discomfort, fatigue and occasionally weight loss. 1,2
The clinical presentation of many ILDs is insidious; however, they may also present acutely. In some instances patients need to be hospitalized during the first manifestation of what ultimately proves to be a chronic ILD. Examples of ILDs that usually require hospitalization include acute exacerbations of idiopathic pulmonary fibrosis (AE-IPF), acute interstitial pneumonia (AIP), cryptogenic organizing pneumonia (COP), acute eosinophilic pneumonia (AEP), rapidly progressive or acute exacerbation of connective tissue disease-associated ILDs (CTD-ILD), and drug-induced ILDs.3
There is paucity of studies on the Clinical characteristics of patients diagnosed with interstitial lung diseases (ILD), in this part of southern India. The present study was done to evaluate the Clinical characteristics of Interstitial Lung Diseases (ILDs) patients

Aims &s Objectives

To study the Clinical characteristics of Interstitial Lung Diseases (ILDs) patients.

MATERIALS AND METHODS

This cross-sectional study was conducted at Tertiary Care Teaching Hospital. All consecutive patients of Interstitial Lung Diseases (ILDs), attending the outpatient services of the Department of Pulmonary Medicine, from Jan 2021 to Dec 2021 were screened for enrolment in the study. All types of ILDs were enrolled in the study.

Inclusion criteria

1. Stable ILD patients: diagnosis of ILD according to ATS/ERS guidelines based on an overall assessment of high-resolution computed tomography (HRCT) scan, lung function tests, (bronchoscopy and biopsy, if available.)
2. Age >18 years, written consent.

Exclusion criteria

1. Subjects with evidence of left heart disease, Chronic kidney disease, Liver disease
2. Chronic lung diseases other than ILDs
3. Patients with HIV.
4. Pregnant

Patients presenting with respiratory symptoms such as cough, shortness of breath and diagnosed cases of ILD were evaluated.

All consecutive ILD patients were subjected to focused history and physical examination as structured questionnaire record information related to; Demographics, Duration of ILD, Clinical characteristics etc.

The data was collected, entered in the MS Excel sheet and analyzed using Epi info V7 software. Continuous variables were reported as mean ± SD or median and interquartile range depending on the distribution of the variables. Categorical variables were recorded as counts and percentages. Differences between means of continuous variables were compared using the unpaired student's' test. A p-value of < 0.05 was considered as statistically significant

RESULTS

Among the study population, 36 (52.9%) were female and 32 (47.1%) were male. The mean age of the study population was 60.345+5.12 years. The mean age of males and females was 64.615+3.26 years and 56.187+ 5.24 years respectively. The mean duration of symptoms of ILD was 3.230 ±2.26 years. There was no significant difference between males and females regarding the duration of illness (2.87 ±2.46 years versus 3.87+2.15 years, p=0.438). (Table 1)

Characteristic	Total (n=68)	Male (n=32)	Female (n=36)	p-value
Age(years)	60.345+5.12	64.615+3.26	56.187+ 5.24	0.008
Duration of ILD (years)	3.230 ±2.26	2.87 ±2.46	3.87+2.15	0.438

Table-1: Age and gender Distribution of the Study population (n=68)

Cough was the predominant symptom observed in 66 patients followed by breathlessness mMRC grade II/III in 62 patients. The exertional chest pain was reported by 24 patients. History of syncope was recorded in 20 patients. On examination, a total of 42 patients had clubbing of different grades. Overall, sixteen patients had raised JVP. Velcro crackle was detected on auscultation among 38 patients. There was no male-female difference with a p- value of >0.05 in all these variables. (Table - 2)

Characteristic	Total (n=68)	Male (n=32)	Female (n=36)	P value
Dyspnea grade (mMRC scale)*				
Grade 1	6	4	2	0.33
Grade 2	29	11	18	
Grade3	33	17	16	
Cough status				
Present	66	31	35	0.93
Not present	2	1	1	
Chest pain (Exertional)				
Present	24	14	10	0.16
Not present	44	18	26	
Syncope (Exertional)				
Present	20	9	11	0.82
Not present	48	23	25	
Raised JVP**				
Present	16	7	9	0.76
Not present	52	25	27	
Clubbing				
Present	42	22	20	0.26
Not present	26	10	16	
Velcro crackle				
Present	38	18	20	0.95
Not present	30	14	16	

Table-2: Clinical characteristics of the study population (n=68)

*mMRC; modified Medical Research Council **JVP; Jugular venous pressure

DISCUSSION

ILD is characterized by continued deterioration with progressive respiratory insufficiency leading to end-stage fibrosis.4

The mean age of the study population was 60.345+5.12 years. The mean age of males and females was 64.615+3.26 years and 56.187+ 5.24 years respectively. Females were more than males. The mean duration of symptoms of ILD was 3.230 ±2.26 years. There was no significant difference between males and females regarding the duration of illness (2.87 ±2.46 years versus 3.87+2.15 years, p=0.438). A similar finding was also reported in the study conducted by Agarwal. et al.5 In the ILD registry of Indian data, it was reported that ILDs occur at a younger age compared to the western countries, and females are affected more.6

In the present study, cough and dyspnea of various grades were the main complaints seen in all patients followed by an exertional syncope and chest pain. History of syncope was recorded in 20 while 42 patients had clubbing of different grades. Raised JVP and Velcro crackle on auscultation were predominant signs among ILD patients. Various studies in the literature,7-10 reported dyspnea in 59% to 98% of patients and figures are comparable to our study.

CONCLUSION

Most of ILD patients had cough, breathlessness mMRC grade II/III, exertional chest pain, history of syncope, clubbing, raised JVP and Velcro crackle on auscultation.

Limitations of the Study

The fact that only a small portion of the population was included in this study is a methodological limitation, and a bigger population should be studied.

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