



CORRELATION BETWEEN 6MINUTE WALK TEST, SPIROMETRY AND HRCT CHEST IN ILD PATIENTS

Pulmonary Medicine

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ABSTRACT

Introduction: Interstitial lung diseases (ILDs) or Diffuse parenchymal lung diseases (DPLDs) are a heterogeneous group which includes more than 200 disorders grouped together because of their similar clinical, radiological, pathological and physiological features. ILDs are classified based on HRCT patterns. Studies shows about 14% of all interstitial lung diseases cases in India are idiopathic pulmonary fibrosis and an equal number of cases are due to connective tissue disorders. **Materials and Methods:** This study was hospital based prospective correlational study performed in Respiratory Medicine Department in GEMS Medical College and Hospital in Srikakulam, Andhra Pradesh, India. **Results:** established significant correlation of 6MWT, Spirometry, DLCO and HRCT chest. **Conclusion:** we can use these simple methods to know the progression and response of treatment instead of using CT chest repeatedly there by decrease the exposure and cost

KEYWORDS

Interstitial Lung Disease(ild), Hrct, 6mwt (6 Minute Walking Test), Dlco (diffusion Capacity Of Lung For Carbon Monoxide)

INTRODUCTION:

ILD refers to a heterogeneous collection of more than one hundred distinct lung disorders that tend to be grouped together because they share common clinical, radiographic, and pathologic features.

Clinically, the presenting symptoms of ILD are non-specific (cough and progressive dyspnoea on exertion) and are often attributed to other diseases, thus delaying diagnosis and timely therapy.

Clues from the medical history along with the clinical context and radiologic findings provide the initial basis for prioritizing diagnostic possibilities for a patient with ILD.

Based on HRCT patterns and clinical findings ILDs are classified into ILDs of known cause, Idiopathic pulmonary fibrosis, hypersensitivity pneumonitis, Non-specific interstitial pneumonia, connective tissue disease associated ILD and other rare ILDs. Studies shows about 14% of all interstitial lung diseases cases in India are idiopathic pulmonary fibrosis and an equal number of cases are due to connective tissue disorders. The majority of Indians are known to develop hypersensitivity pneumonitis because of environmental dust exposure (4)

The current study conducted to analyse the correlation of 6MWT, Spirometry, DLCO with HRCT chest in patients with ILD

MATERIALS AND METHODS:

This study was hospital based prospective correlational study performed in Respiratory Medicine Department in GEMS Medical College and Hospital in Srikakulam, Andhra Pradesh, India.

- The sample size of this study is 22.
- Male: 11
- Female: 11
- Thorough history taking, Respiratory system examination, 6minute walk test, Chest x ray PA view, Spirometry, DLCO, HRCT chest in clinically suspicious cases and immunological parameters were considered and a diagnosis of a subtype of ILD was made.

Inclusion Criteria:

- Patients who had a history and clinical examination suggestive of ILD
- Patients who had a significant desaturation on 6minute walk test
- Patients who had a restrictive/ mixed pattern in spirometry and reduced DLCO
- Patients with chest x-ray and HRCT chest suggestive of ILD
- Patients who were willing for the study

Exclusion Criteria

- Patients who do not gave consent
- Patients with very severe breathlessness were excluded

- Patients with recent myocardial infarction
- Poor general condition
- Already diagnosed patients of ILD.

Table 1-spirometry, Dlco, Hrct Patterns In Ild Patients

PARAMETERS	HRCT	r(P)
6MWT	19	0.5(0.0023)
SPIROMETRY	14	0.42(0.0023)
DLCO	18	0.0445(0.017)

Table 2-correlation Of 6mwt, Spirometry Dlco With Hrct

	positive	negative
Clinical evaluation	14	8
6MWT	19	3

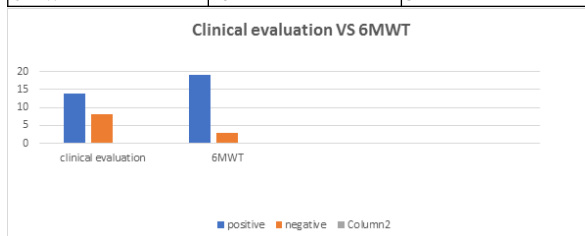


Table 3-clinical Evaluation And 6mwt In Ild Patients

S.No	Spirometry	No of samples
1	Restrictive	10(45.4%)
2	Mixed	4(18.1%)
3	Normal	8(36.3%)
	DLCO	
4	Reduced DLCO	18(81%)
5	Not Interpretable	4(19%)
	HRCT PATTERN	FREQUENCY(%)
6	UIP	7(31.8)
7	NSIP	6(27.2)
8	COP	4(18.1)
9	HSP	3(13.6)
10	RBILD	2(9.0)

DISCUSSION:

In this study we tend to analyze the correlation of 6MWT, Spirometry, DLCO with HRCT chest in patients with ILD. The mean age was 50 years which is similar to study conducted by Tiya sen et al., Adesh k et al^(5&6) Out of 22 patients 68%(15) patients have clinically positive and 86%(19) patients have reduced 6minute walking distance than normal. Most common pattern on spirometry is restrictive 45% followed by normal 36% and mixed 18%. In our study Most common HRCT finding is UIP 31% followed by NSIP 27% followed by COP 18%, HSP 13%. Our study established significant correlation of 6MWT, Spirometry, DLCO and HRCT chest. Results of our study

were using t test for continuous variables and chi square test for qualitative data compared with that of Enright et al, chetta et al, and hallstrand et al

CONCLUSION:

As there is significant correlation between 6MWT, SPIROMETRY, DLCO and HRCT we can use these simple methods to know the progression of disease and response of treatment instead of using CT chest repeatedly there by decrease the radiation exposure and cost to the patients.

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