

A STUDY OF EFFECTS OF ENVIRONMENTAL, OCCUPATIONAL AND PERSONAL FACTORS IN HISTORY OF PATIENTS OF INTERSTITIAL LUNG DISEASE- A OBSERVATIONAL STUDY .

Pulmonary Medicine

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KEYWORDS

Interstitial lung disease, tobacco smoking ,occupational exposure, sarcoidosis , idiopathic pulmonary fibrosis, smokers, demographics.

INTRODUCTION

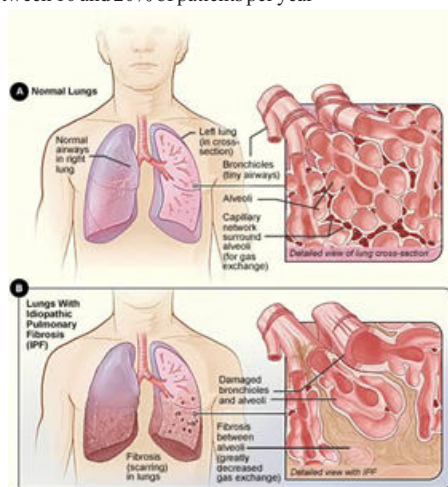
Background Of The Study :

Interstitial Lung disease is a characterised by a progressive and irreversible decline in lung function, which is associated with poor long-term survival^[1]

Cardinal signs and symptoms of ILD include chronic dyspnea, which is worse on exertion, a persistent cough, bilateral inspiratory crackles on chest auscultation and finger clubbing^[2]

The rate of clinical decline seen in patients with ILD is highly variable. Many patients with ILD will experience a slow but progressive decline in their clinical condition, whereas a small proportion will experience rapid deterioration as part of an accelerated clinical course punctuated by acute exacerbations^[3]

The rate of acute exacerbations in patients with ILD has been estimated to be between 10 and 20% of patients per year^[4]



Aim And Objectives Aim :

Study of effects of environmental, occupational and personal factors in history of patients of interstitial lung disease - observational study.

Objectives :

1. To explore the relationship between the duration and intensity of exposure to identified environmental and occupational factors and the severity of ILD.
2. To examine the role of preventive measures (e.g., use of protective gear, smoking cessation) in mitigating the risk of ILD among individuals with high exposure to environmental and occupational hazards.
3. To investigate the demographic characteristics (age, gender, socioeconomic status) of ILD patients and their potential correlation with specific environmental, occupational, or personal

risk factors.

4. To identify any regional or geographic patterns in ILD prevalence that may be linked to local environmental or occupational exposures.

Rationale: Assess the effectiveness of interventions in reducing ILD incidence and Determine if certain demographic groups are more susceptible to ILD due to these factors. Assess whether ILD is more common in certain regions due to specific local exposure

Factors Studied :

- Personal
- Age
- Sex
- Occupational And Environmental Factors
- Age
- Sex
- Exposure to: Silica dust, Asbestos, tobacco smoking.

MATERIAL AND METHODS:

Inclusion Criteria:

- Detailed Clinical History
- Thorough physical examination
- Complete blood count, Liver function test, Kidney function test, Serum electrolyte.
- X-ray chest (PA) view, HRCT.
- Spirometry, 6 minutes walk test.
- Special investigations such as ANA-DNA, Rh factor.
- Arterial Blood Gases (ABG)
- 2D Echocardiography, ECG
- Ultrasound whole abdomen

Exclusion Criteria :

- Any infectious or malignant disease.

Clinical Evaluation:

Each patient underwent a comprehensive clinical evaluation, beginning with the collection of a detailed medical history. This included demographic details (age, gender, occupation), presenting symptoms.

Thorough physical examination, detailed medical history, socio economic status, smoking and occupational exposure history is consciously noted .

Study And Sample Size :

Study Type : Observational study.

Sampling including sample size calculation:

Data was analysed using SPSS, version 26, software and frequency table & cross tabulations for the sample size was done.

Sample size : 60

Sampling Done : random sampling

Total number of patients: 60

- 35 (58.3%) males
- 25 (41.7%) females

RESULTS :

- Idiopathic pulmonary fibrosis (IPF) = 48.2%
- Sarcoidosis = 16.1%
- Hypersensitivity pneumonitis (HP) = 14.3%
- Non Specific Interstitial Pneumonias (NSIP) = 8.9%
- Connective Tissue Disorder (CTD) associated ILD = 6.8%
- Other = 5.4%

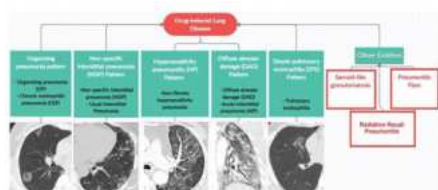


Figure 1. Radiological findings of drug-induced lung disease during chest computed tomography.

- Prevalence of Idiopathic pulmonary fibrosis (I.P.F.) increased with the advance in age
- <30 years of age, sarcoidosis and NSIP were more common.
- Between 30-39 years of age, IPF 50%, sarcoidosis and CTD associated ILD 25% each.
- HP was more common in age group 60-69 years .
- 51.7% of patients were cooking on fire wood/cow-dung followed by LPG(30.3%).
- 53.5% were using desert cooler (53.5%)
- 8.9% were using Air conditioners
- 26.7% were exposed to environmental dust (26.7%), Air conditioner (8.9%) and
- 7.1% were exposed to moulds.
- 59.25% IPF patients were of rural background
- 88.8% Sarcoidosis patients were of Urban background
- 50% of Hypersensitivity Pneumonitis patients were urban background.
- 40.7% of IPF were smokers
- 22.1% of Sarcoidosis patient were smokers
- 12.5% of Hypersensitivity Pneumonitis were smokers

Past History Of Tuberculosis Treatment:

- IPF 31.1%
- SARCOIDOSIS 53.8%

CONCLUSIONS :

- Various ILD in order were of prevalence were IPF, Sarcoidosis, Hypersensitivity pneumonitis, NSIP, CTD associated ILD.
- A large number of patients of ILD were using exposed to Firewood/ cow-dung cooking fuel fumes, desert coolers, LPG cooking and dusty work places.
- In summary, this study demonstrates that Prevalence of Idiopathic pulmonary fibrosis (I.P.F.) increases with the advance in age.

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