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Original Research Article

Bronchiectasis: A Retrospective Study of Clinical and Etiological Profile in a General Respiratory Department

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Conflict of interest: Nil

Abstract:

Background: Recurrent infections and irreversible bronchial dilatation are hallmarks of bronchiectasis, a chronic respiratory disease. For early diagnosis and treatment, it is critical to comprehend its etiological and clinical characteristics.

Objective: To assess bronchiectasis patients' clinical manifestations and underlying causes in a general respiratory department.

Methods: 100 individuals who were diagnosed with bronchiectasis in a tertiary care respiratory department over a 12-month period were included in this retrospective analysis. Hospital records were used to gather information about the etiological causes, clinical symptoms, and demographic profile. The chi-square test was used for statistical analysis, and a p-value of less than 0.05 was considered significant.

Results: 39% of patients were in the 30- to 50-year-old age range. 57% of the participants in the study were men. The most frequent cause was post-infectious bronchiectasis (29%), which was followed by idiopathic (21%), COPD's (20%), tuberculosis's (20%), and allergic bronchopulmonary aspergillosis's (10%). The most frequent presenting symptoms were hemoptysis (30%) and persistent cough (26%). Gender and etiology did not show a statistically significant correlation ($p = 0.60$).

Conclusion: The two main etiological causes of bronchiectasis are still post-infectious and tuberculosis-related. The most common clinical manifestations are hemoptysis and persistent cough. Early etiological factor identification may enhance treatment and lessen the burden of illness.

Keywords: Hemoptysis, Gender, Bronchiectasis, Respiratory Disease, Etiology.

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Introduction

A chronic lung condition called bronchiectasis is typified by the irreversible dilation of bronchi brought on by recurrent infection and inflammation. Patients frequently exhibit hemoptysis, recurrent respiratory infections, increasing respiratory impairment, and a persistent severe cough [1].

Bronchiectasis remains a major cause of morbidity despite advancements in antibiotics and immunization, particularly in developing nations where post-infectious and tuberculosis-related etiologies are common [2]. Comprehending the clinical and etiological characteristics of bronchiectasis is crucial for prompt diagnosis and focused treatment. Clinical presentations, demographic patterns, and common risk variables can all be found through retrospective hospital-based investigations [3]. The purpose of this study was to assess the etiological variables and clinical presentation of patients with bronchiectasis who were hospitalized to a general respiratory department over a one-year period.

Methods

Study Design: Retrospective observational study.

Study Setting: Netaji subhash medical college

Study Duration: 12 months.

Sample Size: 100 patients diagnosed with bronchiectasis.

Inclusion Criteria

- Patients diagnosed with bronchiectasis by HRCT chest
- Patients admitted or treated in the respiratory department
- Age ≥18 years

Exclusion Criteria

- Incomplete medical records
- Patients with suspected but unconfirmed bronchiectasis

Statistical Analysis: Descriptive statistical techniques were used to assess the data. To summarize the data, percentages and frequencies were computed. The Chi-square test was used to evaluate correlations between variables, and a p-value of less than 0.05 was deemed statistically significant.

Results

Table 1: Age Distribution

Age Group	Number of Patients	Percentage
<30 years	29	29%
30–50 years	39	39%
>50 years	32	32%
Total	**100**	**100%**

Table 2: Gender Distribution

Gender	Number	Percentage
Male	57	57%
Female	43	43%

Table 3: Etiology of Bronchiectasis

Etiology	Number	Percentage
Post-infectious	29	29%
Idiopathic	21	21%
COPD-related	20	20%
Tuberculosis	20	20%
Allergic / ABPA	10	10%

Table 4: Presenting Symptoms

Symptom	Number	Percentage
Hemoptysis	30	30%
Chronic cough	26	26%
Recurrent infections	24	24%
Dyspnea	20	20%

Table 5: Association Between Gender and Etiology

Gender	ABPA	COPD	Idiopathic	Post-infectious	TB
Male	6	12	14	13	12
Female	4	8	7	16	8

p-value = 0.60

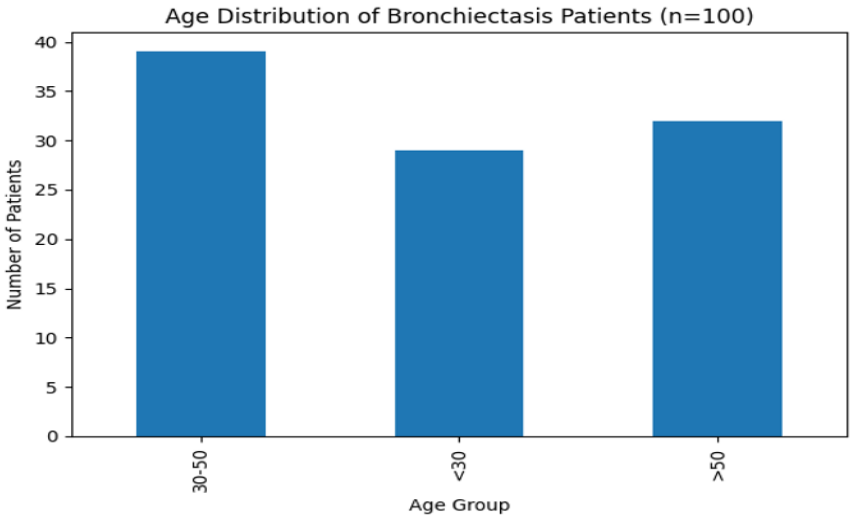

Figure 1: age distribution of bronchiectasis patients

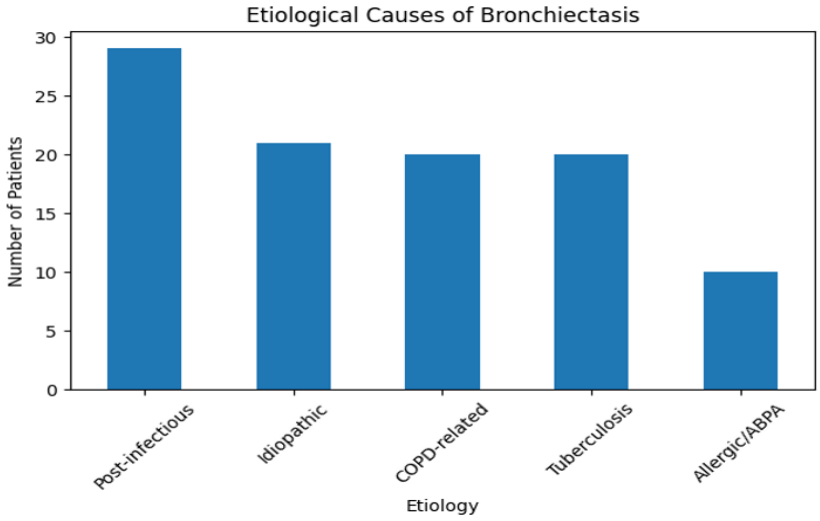

Figure 2: Etiology causes of bronchiectasis

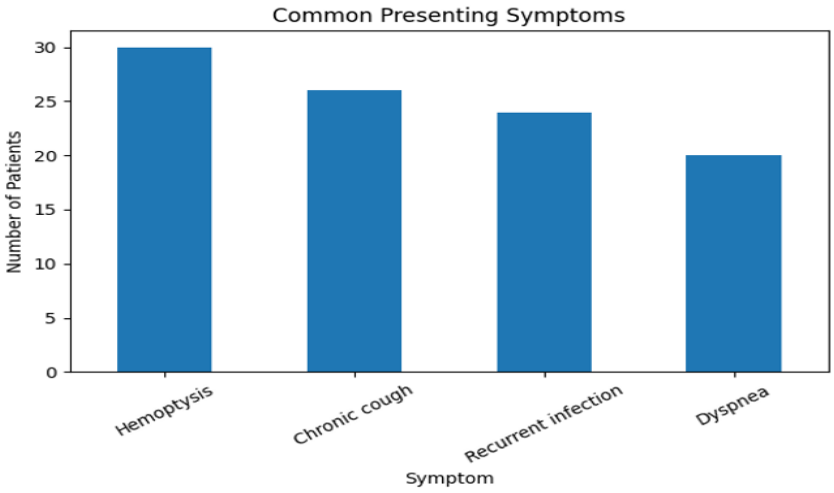

Figure 3: Common presenting symptoms

Discussion

The bulk of the 100 bronchiectasis patients in this retrospective analysis were between the ages of 30 and 50, indicating that bronchiectasis typically strikes people in their prime working years. The study's 57% male predominance is in line with a number of other findings. Increased exposure to smoking, workplace toxins, and respiratory infections could be the cause of this. TB and COPD-related causes were the next most frequent etiology, with post-infectious bronchiectasis accounting for 29% of cases. Due to persistent airway damage brought on by infection, pulmonary TB continues to be a significant cause of bronchiectasis in underdeveloped nations [4].

The most common presenting symptoms were hemoptysis and persistent cough. These results are consistent with earlier research in which the characteristic symptom of bronchiectasis was a persistent productive cough [5]. There was no discernible correlation between etiological variables and gender ($p = 0.60$). This implies that gender may not have a significant impact on the etiological distribution of bronchiectasis [6]. Using HRCT chest for early identification and treating infections appropriately can greatly improve results and lower consequences such major hemoptysis and respiratory failure [7].

Conclusion

With a variety of causes, bronchiectasis is still a serious chronic respiratory condition. Post-infectious and tuberculosis-related bronchiectasis are the leading causes in this study population. The most frequent presenting symptoms were hemoptysis and a persistent cough. To lower morbidity and enhance patient outcomes, underlying etiologies must be identified early and managed appropriately. The impact of bronchiectasis may be lessened by bolstering infection control strategies and treating respiratory infections early.

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