Original Article

An observational study on Bronchiectasis to find out clinical pattern.

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ABSTRACT

Background: *Although infection plays a main role in bronchiectasis there are many other causes. It is difficult to find out aetiology always but aetiology finding makes it easy to treat.*

Materials & Method: *Fifty cases of bronchiectasis were selected from outdoor& indoor of the department of pulmonary medicine & Internal medicine of SSMCH in this observational & prospective study for one year. Verbal & written consent was taken from each patient. Clinical history & examination was done thoroughly. All investigations were done properly. Diagnosis of Bronchiectasis was confirmed by HRCT of chest. Dry Bronchiectasis & ILD were excluded. All data were analyzed with SPSS version 20.0.*

Results *mean age of patients 41.3 years, M:F= 0.85:1. Bacterial Infection was the common cause (30%), tuberculosis (26%). No definitive aetiological diagnosis was established in 54% of the patients. H.influenzae (56%), Pneumococcus(18%), Stph.aureus (14%), P.auriginosa (12%) were found in sputum culture.*

Conclusion: *If Bronchoscopy, sweet test,genetic test for CF can be done then proper etiology will be found for better management. Sputum for C/S should be done in follow-up visit to improve the management*

Keywords: *Bronchiectasis, Investigation, Aetiology, Management*

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INTRODUCTION

In many third world countries bronchiectasis remains a common problem.[1, 2] A large South African thoracic surgical center serving a population of about six million still carries out 60-70 resections per year on patients with bonchiectasis.[1]

In Bedford in 1953, 1.3 cases of bronchiectasis per thousand were reported.[3] 1.5 cases per thousand were

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reported in England & Wales chest clinic follow up over 3.5 million in 1956.[4]

Although infection is the major cause of bronchiectasis, there are congenital, structural & obstructive causes which we could not investigate. Our aim was to find out aetiological &clinical pattern & to gain further attention to find out specific causes of bronhichiectasis by the time being development of diagnostic tools like Alpha1 antitripsin, bronchoscopy.

OBJECTIVE

To find out clinical pattern of bronchiectasis for better management & for further research.

METHODS & MATERIALS:

The study was done on 50 cases of bronchiectasis for one year. Patients were selected from outdoor and indoor of the department of pulmonary medicine & Internal medicine. This study was approved by the Institute ethical committee. It was an observational & prospective study. Clinical history of diabetes mellitus, pneumonia, sinusitis, whooping cough, pulmonary tuberculosis, and measles was taken. Clinical examination was done thoroughly. Complete blood picture, X-ray chest, sputum for AFB & gram stain, sputum culture and sensitivity & blood culture were done. Bronchoscopy, CT of chest, serological and immunological investigations were done if needed. Diagnosis of Bronchiectasis was confirmed by HRCT of chest. Dry Bronchiectasis & ILD were excluded. All data were analyzed with SPSS version 20.0.

RESULTS:

Figure 1 shows sex of the patients. Among the 50 patients 23 (46%) were male and highest 27 (54%) were female. Mean age of patients were 41.3 years, and ratio M: F= 0.85:1,

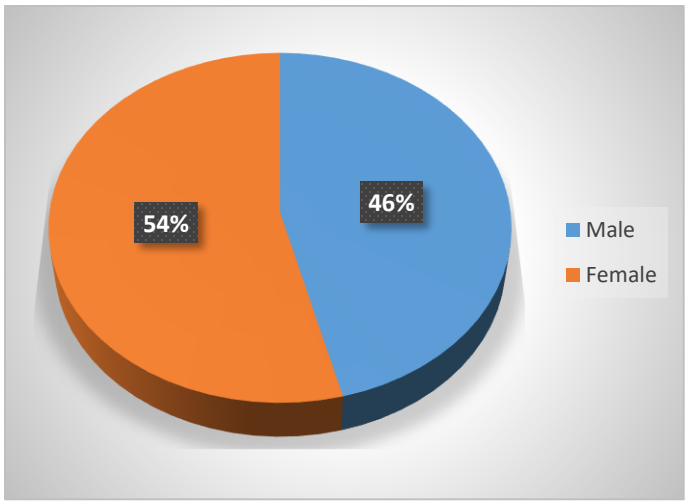

Figure -1 Sex of the patients

Figure 2 shows the smoking habits of the patients. Among the 50 patients highest 30 (60%) were nonsmoker and 20 (40%) were smoker.

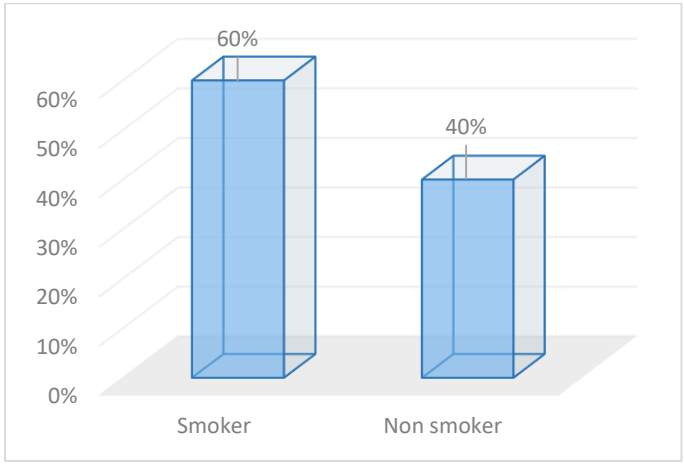

Figure-2 Smoker & nonsmoker number

Functional evaluation showed a mild airway obstruction. The sputum for Gram stain, C/S & AFB was done in all patients. Bacterial Infection was the common cause 15 (30%),

tuberculosis 13 (26%). No definitive aetiological diagnosis was established in 27 (54%) of the patients. H.influenzae 28 (56%), Pneumococcus 9 (18%), Stph.aureus 7 (14%), P.auriginosa 6 (12%) & were found in sputum culture. There was mild airway obstruction in 33 patients in terms of FEV1 which was about 66% (Table 1). Table 2 shows patient's clinical symptoms of Bronchiectasis. All the patients most common clinical symptom was cough and expectoration.

Table -1 Causes of Bronchiectasis

Causes	No. of cases	Percentage
Bacterial infection	15	30%
Tuberculosis	13	26%
No definitive aetiological diagnosis*	27	54%
H. influenza	28	56%
Pneumococcus	9	18%
Sth.aureus	7	14%
P.auriginosa	6	12%
Mild airway obstrution	33	66%

* Multiple cause

Table -2 Patients clinical symptoms and signs of Bronchiectasis

Symptoms at Presentation	No. of cases	Percentage
Cough	50	100%
Fever	43	86%
Expectoration	50	100%
Chest pain	11	22%
Breathlessness	36	72%
Loss of appetite	13	26%
Hemoptysis	15	30%
Signs at Presentation		
Crackles	48	96%
Clubbing	21	42%
Collapse	3	6%
Fibrosis	13	26%
Cyanosis	6	12%
No sign	2	4%

The following figure 3 shows that most of the patient's diagnosis were bilateral bronchiectasis (87%) the remaining (13%) were Unilateral Bronchiectasis.

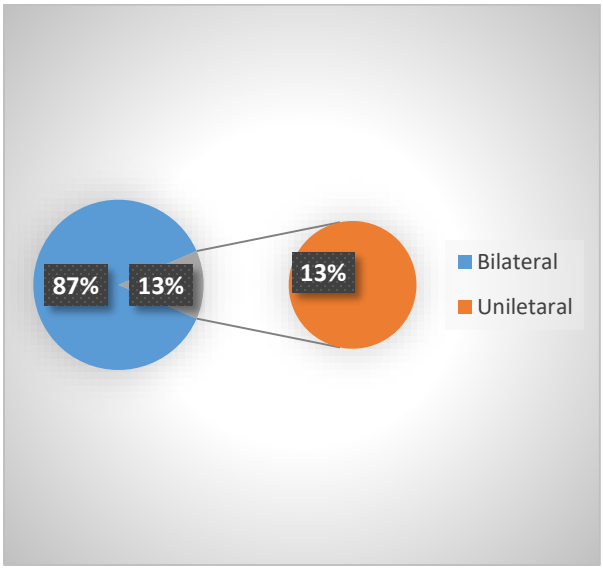

Figure 3: Bilateral and Unilateral Bronchiectasis

DISCUSSION

In our study mean age of patients was 41.3 years & females were more affected (M:F= 0.85:1). In our study we found haemoptysis in 30 % of patients which is similar with the study by Streete BG in which it was 32%.[5]We found clubbing of fingers in 42 % cases which is similar with the study by Field CE in which it was 44 %.[6] In our study find out the symptom at presentation caught 100%, chest pain 22% and signs at presentation clubbing 42%, Crackles 96%. Maeve P. Smith, MB ChB MD (2017) shows that symptom at presentation caught (90.2%-96%), chest pain (19%-46%) and signs at presentation clubbing (2%-3%), Crackles (69.9%-73%).[7]

In our study spirometry showed mild airway obstruction in 67 % cases. This was because functional impairment is related to extend of lung damage.[8,9] W found H.influenzae (56%), Pneumococcus (18%), Stph.aureus (14%), P.auriginosa(12%) Which almost similar with the findings of Roberts DE.[10]

CONCLUSION

If we can do all investigations like Bronchoscopy, sweet test, genetic test for CF then proper etiology will be found for better management. Sputum for C/S should be done in follow up visit to improve the management.Limitation of the study- the study was done in small number of patient. All test like sweet test, genetic test cannot be done.

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