Profile of Bronchiectasis Patients in A Tertiary Care Institute – A Study From Central India

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Abstract: Background: The prevalence of bronchiectasis has declined in the developed countries because of early immunization, widespread use of antibiotics in management of childhood respiratory infections and effective control of tuberculosis. Aims and objective: The present study was performed to describe the clinical spectrum of the patients presenting with bronchiectasis. Methods: A prospective observational study was done on 50 patients, history suggestive of bronchiectasis were included at Chirayu Medical College and Hospital, Bhopal from July 2015 to June 2017. Patients detailed history, clinical feature, etiology, radiological features and complications were recorded. Results: Mean age of the patients (76% males and 24% females) was 52.94±17.02 years and 78% of them were exposed to smoke. The most common symptoms were cough (92%), expectoration (86%) and dyspnea (74%). The most common chest examination findings were crackles (92%) and rhonchi (50%). Clubbing (66%) of fingers was commonly associated with bronchiectasis. Post tubercular (48%) bronchiectasis was the most common etiological diagnosis. Unilateral (66%) tubular (64%) bronchiectasis was the most common type of bronchiectasis on the basis of radio-imaging. Conclusion: The bronchiectasis remained one of the important chronic respiratory diseases; post tubercular variety was the most common type. Tuberculosis, smoking and recurrent chest infection contributed towards higher morbidity of the disease. [T Jalaly Natl J Integr Res Med, 2018; 9(1):65-67]

Key Words: bronchiectasis, clubbing, pulmonary tuberculosis, tobacco smoking.

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Introduction: Bronchiectasis (BE) is linked to eminent morbidity and health care system cost, which can results from different diseases[1].

Since long, respiratory infection was the most common identifiable cause of bronchiectasis. Nevertheless, the prevalence of bronchiectasis is decreased in developed countries due to different vaccination program run by the government, proper use of antibiotics and by maintaining proper social-hygienic conditions[2]. Many authors have reported that proper etiological diagnosis of bronchiectasis can alter the approach of therapy in most of the patients[3].

Also there are reports that proper analysis and rigid follow up of bronchiectasis patients at specialized centers can result in proper etiological diagnoses and treatment[4, 5]. The present study was performed to describe the clinical spectrum of the patients presenting with bronchiectasis.

Methods: It was a cross sectional study done on 50 cases of bronchiectasis in Chirayu Medical College and Hospital, Bhopal from July 2015 to June 2017. A written informed consent and Institutional Ethics Committee approval was obtained before starting the study. Patients with age more than 12 years and signs and symptoms suggestive of bronchiectasis and later confirmed by radio imaging study were included in the study. Patients who were of age less than 12 years or any congenital cause were excluded from the study. A through history and routine examination including chest x- ray and radiological examination was performed for all patients.

Results: In present study most of the patients [12 (24%)] belong to age group of 51-60 years. The mean age of study population was 52.94±17.02 years. Majority of the patients [28 (56%)] were of age more than 50 years. There were 38 (76%) males and 12 (24%) females with male to female ratio of 3.16:1. The mean age of males was 50.83±18.45 years and that of female was 60.64±11.97 years.

In present study, 20 (40%) patients were underweight (BMI <18.5 kg m^2), 27(54%) patients were normal weight (BMI 18.5-24.9 kg m^2) and only 3 (6%) patients were obese (BMI >25 kg m^2). Mean BMI was 20.33±2.63 kg m^2.

During general physical examination, commonest finding in the patients with bronchiectasis was tachypnea in 38 (76%), clubbing was present in 28 (66%) patients, jugular venous pulse was present in 12 (24%) patients, 11 (22%) patients had pedal edema and 5 (10%) patients were having cyanosis.

Distribution of patients according to occupation showed that most of the patients were farmers [26

(52%)]. There were 11 (22%) house wives, 8 (16%) were labour and 4 (8%) drivers.

Out of 50 patients, 25 (50%) male patients were smokers. None of the female patients were smoker but 14 (28%) female patients gave history of exposure to indoor biomass smoke while cooking that means out of 50 patients, 39 (78%) patients were exposed to smoke.

Out of 25 patients who were smoker, the pack years were more than 20 in 11 (44%) patients. The mean duration of smoking was 9.33±4.04 months.

Most of the patients [10 (20%)] were admitted to the hospital in the month of December and October [9 (18%)]. Thus peak presentation was seen in winter months because of lower respiratory tract infection.

Analysis of symptoms of bronchiectasis showed that most common was cough in 46 (92%) patients. Cough with expectoration was present in 43 (86%) patients, 37 (74%) patients had breathlessness problem, 16 (32%) patients complained for chest pain, 11 (22%) were having fever, 11 (22%) patients complained about swelling in limbs and 5 (10%) patients reported for hemoptysis.

The duration of symptoms in bronchiectasis ranged from one month to more than a year. In present study most of the patients [21 (42%)] were having duration of symptoms for more than 12 months followed by 13 (26%) patients who had duration of symptoms between 7 to 12 months with mean duration of symptoms was 14.10±11.02 months.

Out of 50 bronchiectasis patients, past history of tuberculosis was present in 24 (48%) patients. Respiratory finding in present study showed that course crepitation was present in 46 (92%) patients, decreased chest expansion was seen in 44 (88%) patients, 43 (86%) patients were identified with barrel shaped chest and rhonchi was identified in 25 (50%) patients.

In present study, hepatomegaly was present in 6 (12%) patients, ascites was present in 3 (6%) and loud P2 was observed in 11 (22%) cases.

In present study, the probable etiology of bronchiectasis in majority of the patients was pulmonary tuberculosis in 24 (48%) patients. Other etiological factors found were pneumonia in 3 (6%), pulmonary arthritis in 9 (18%), rheumatoid arthritis in 1 (2%), lung carcinoma in 1 (%), lung abscess in 1 (2%) and in 12 (24%) patients were idiopathic.

Hemoglobin levels were range from 4.6 to 18.4 gm/dl with mean value of 12.22±2.84 gm/dl. Total leukocyte count (TLC) was in the range of 6800 to 23800 cells/cumm with mean value of 12385±4261 cells/cumm. TLC more than 1100 cells/cumm were noted in 23 (46%) patients. Mean erythrocyte sedimentation rate was 52.68±32.71.

Radiological analysis showed that most of the patients [33 (66%)] showed unilateral lesions and 17 (34%) patients showed bilateral lesions. Radiological analysis also revealed tubular types of bronchiectasis in 64%, cyctic type in 54%, varicose in 6% and mixed type in 22% cases.

In present study, 11 (22%) patients had cor pulmonale associated with chronic bronchiectasis. Recurrent chest infection was present in 23 (46%) patients. Respiratory cachexia was seen in 12 (24%) patients, 5 (10%) patients have hemoptysia and only one patient had respiratory failure.

Discussion: Mean age in present study was 50.83±18.45 years with male predominance which is consistence with the study done by Pasteur et al. The present study has found that age was the important independent factor, more the age (>50 years) greater was the risk[6].

Half of the patients in present study were smokers; all female patients were non smokers but were exposed to indoor (Chula) smoke (28%). Study done by Bhatta et al and Habesoglu at el reported 45% and 38% patients who were smokers in their study[7]. Most of the patients in present study had more than 1 year (42%) of duration of symptoms which is similar to Bhatta et al who reported 50% patients who were more than 1 years of duration of symptoms[7,8].

Study done by Nigam et al[13] reported cough as the most common presenting complain in their study, almost similar results were reported by present study[9].

Clubbing of fingers (66%) was the most commonly associated with bronchiectasis in present study, study done by Kamat et al (143) reported 42.8% patients had clubbing of fingers in their study[10].

Post tubercular bronchiectasis was the most common etiological diagnosis accounting for 48% of the cases, which is compatible with the study done by Bhatta et al who did a study on 100 patients[7].

Chest X-ray is an important tool for investigation of bronchiectasis in recourses poor setting because the characteristic honeycomb/ring shadows/tram tracks/increased liner marking with classical clinical manifestation confirmed diagnosis. Therefore in investigating patients in limited recourses, we suggest that chest radiograph should be employed as the next investigating tool after targeted history and clinical examination. Most of the patients showed unilateral (66%) lesion and 34% of patients showed bilateral lesion on chest X-ray. In high resolution CT scan, cylindrical bronchiectasis was most common. Bhatta et al had also reported 35% unilateral and 20% of bilateral chest findings on chest X-ray[7].

Conclusion: The bronchiectasis remained one of the important chronic respiratory diseases; post tubercular variety was the most common type. Tuberculosis, smoking and recurrent chest infection contributed towards higher morbidity of the disease.

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