EMPHASING THE ROLE OF MDCT IN EVALUATIONOF PULMONARY BRONCHIECTASIS.

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ABSTRACT

In this study we aimed to highlight the role of multi-slice CT chest in the evaluation of pulmonary bronchiectasis. The study has been attempted for identification of bronchiectasis in lungs by computed tomography and to evaluate the type of bronchiectasis. This prospected study was conducted on 15 patients with some clinical indication subjected to CT scanning on PHILIPS 128 slice CT machine in the period of 2nd May to 16th July 2022.

KEYWORDS: Bronchiectasis, Cystic fibrosis, Tubular bronchiectasis, Varicose bronchiectasis, Pneumonia and essential ciliary dyskinesia (PCD).

I. INTRODUCTION:

Bronchiectasis is an obstructive lungs disease that results from the presence of chronic inflammatory secretions and microbes leading to the permanent dilation and distortion of airways walls, as well as recurrent infection. Clinical diagnosis of bronchiectasis is primarily based on a history of every day viscid excessive sputum production, so it is often misdiagnosed as allergies or chronic obstructive pulmonary disease (COPD) dueto the similarities in Scientific findings.

A radiologist will accomplice bronchiectasis with the standard chest CT scan features, consisting of an abnormally widened and thickened airways with an irregular wall, lack of tapering or visibility of the airways in the periphery of the lungs. Bronchiectasis can result from a range of pathological conditions. Both congenital and acquired stipulation can be reason of bronchiectasis. This disease could be a part of numerous multi- systemic diseases, such as cystic fibrosis (CF), immunodeficiencies, alpha 1-antitrypsin deficiency, primary ciliary dyskinesia (PCD), rheumatoid arthritis and inflammatory bowel disease, especially ulcerative colitis.

Multi detector row computed tomography (MDCT)provides enhanced quality of multi- planar reconstructed images in axial, coronal and sagittal planes with minimum intensity projection reconstructed images as well. It is the most sensitive imaging modality for the detection and diagnosis of the bronchiectasis.

The aims of the study are-
1. To evaluate the type of bronchiectasis in lungs.
2. To evaluate the location of bronchiectasis in lungs.

II.   EPIDOMOLOGY:

The estimated prevalence of bronchiectasis is approximately 30 to 40 per 100,000 individuals. The average annual bronchiectasis-associated hospitalization rate is approximately 16.5 per 100,000 hospitalizations. Bronchiectasis rises steeply from 4-5 per 100,000 adults aged 18-34 years to 250 to 300 per 100,000 individuals aged >75 years. Predominantly in women, the annual increase of about 2.4% in men and 3.0% in women for bronchiectasis-associated hospitalizations.
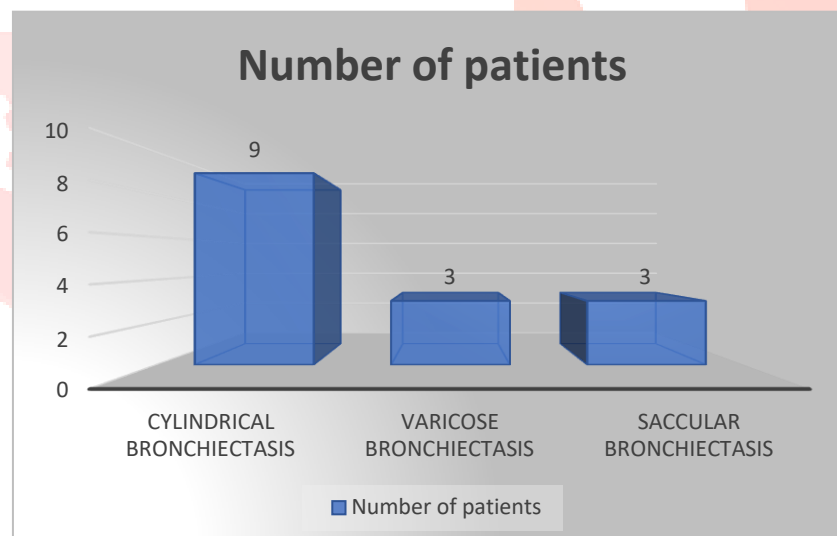
III.   OBSERVATION AND RESULT:

The present find out "EMPHASING THE ROLE OF MDCT IN EVALUATION OF PULMONARY BRONCHIECTASIS" deals with authentic findings of bronchiectasis in NCCT chest, CECT chest and HRCT chest examination. The study about topics was patients with suspected case of bronchiectasis. Based on the history, patients referred from emergency, OPD, surgical wards and other wards for NCCT/CECT/HRCT chest to the Department of Radio-diagnosis and Imaging, Chhatrapati Shivaji Subharti Medical College, Meerut. The findings have been derived from primary data taken from the analysis of images of the patients in the main work stations of the CT scan. The study was undertaken with the aim to evaluate the location of bronchiectasis and type of bronchiectasis in the patients of Chhatrapati Shivaji Subharti Hospital who were for CECT/NCCT/HRCT chest. A total of 15 cases were evaluated in this study for a period from 2nd May 2022 to 16th July 2022. The findings were described below with the appropriate tables.

Distribution of patients based on the type of bronchiectasis in lungs.

The distribution of patients in accordance to the type of the bronchiectasis in lungs. A total of 15 patients were included in this study in which 9 were found to be infected with cylindrical type of bronchiectasis.

Graph No. 1: Graphical representation of type of bronchiectasis in lungs:

IV. DISCUSSION

To conduct this study 15 patients having bronchiectasis in lungs were selected. 9 patients were reports with tubular (cylindrical) bronchiectasis i.e., 60%, 3 patients were with varicose type of bronchiectasis i.e., 20% and 3 (20%) patients were with saccular (cystic) type of bronchiectasis.

There was no discrimination according to the gender of the patient in the study. Out of total 15 patients of bronchiectasis, 10 patients were male and 5 patients were female.

The highest number of patients with bronchiectasis lung disease were from 40-60 years of age group category, which was 7 out of 15 i.e., 46.6% of the total number of the patients. Similarly, it is observed that minimum patients were found from the age group of below 20 and 80-100 years i.e., 1 (6.6%) each. In between the age group of 20-40 years 3 patients were found and in between the age group of 60-80 years 3 patients were reported.

V. MATERIALS AND METHODS

This is a prospective observation study, in which the source of data is collected from the patient referred to the Department of Radio-diagnosis and Imaging for the CT chest with suspected cases of bronchiectasis from OPD/IPD/ER of Chhatrapati Shivaji Subharti Hospital, Subharti Medical College, Meerut, U.P.

The machine used for this study is Philips Ingenuity Core 128 slice MDCT machine. All age group patients without gender discrimination are collected during data collection period.

VI. CONCLUSION

Computed tomography is fundamentally a method of acquiring and reconstructing an image of a thin cross-section of the body. CT is a technique of creating tomographic images from digitized data obtained by exposing the patients to x-ray from many different angles. High resolution CT is accepted as the gold standard for evaluation of lungs.

In this study, a total 15 patients with bronchiectasis disease were selected, it was found 9 patients were reports with tubular (cylindrical) bronchiectasis i.e., 60%, 3 patients were with varicose type of bronchiectasis i.e., 20% and 7 (20%) patients were with saccular (cystic) type of bronchiectasis.

The maximum patients were found to be having Tubular (cylindrical) bronchiectasis. The highest number of patients with bronchiectasis in lungs were from the 40-60 years age group category, which was 7 out of 15 i.e., 46.6% of the total number of the patients. The minimum reported patients were belonged to the age group of below 20 and 80-100 years i.e., 1 in each (6.6%) and it was observed that they both were females.

The conclusion of the study is that patients belong to the age group of 40-60 years are more prominent to bronchiectasis lungs disease.

VII. REFRENCE

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