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PULMONARY MANIFESTATION OF INFLAMMATORY BOWEL DISEASE

Respiratory Medicine

Dr L Mahithaa Reddy	Post Graduate III Year
Dr Rowhit	Senior Resident, Department Of Respiratory Medicine
Dr Jishna.G	Post Graduate III Year
Dr Srinidhi	Post Graduate III Year

KEYWORDS

CASE REPORT

51 year old male patient known case of Asthma for 20 years on regular treatment came to pulmonology OPD with complaints of cough with expectoration for one week associated with noisy breathing. Patient had 3 episodes of loose stools for a month. His past history suggestive repeated episodes of loose stools on and off for 3 years which was managed symptomatically. Routine blood investigations and vitals were normal. A chest radiography revealed nodular opacities in bilateral lower zones. Hence, CT chest was done and showed cystic bronchiectasis with peri bronchial thickening in the central region of both lungs. Colonoscopy was done in view of recurrent diarrhea which revealed nodular mucosa in terminal ileum, lymphoid hyperplasia. Bronchoscopy with BAL was done to rule of aspergillosis and other causes. No significant abnormalities were seen in Bronchoscopy. The clinical presentation, CT imaging and colonoscopy confirmed diagnosis of IBD with bronchiectasis. Patient was managed with intravenous antibiotics, nebulized bronchodilators and chest physiotherapy. Patient improved symptomatically and was discharged after 7 days. He is on regular follow up.

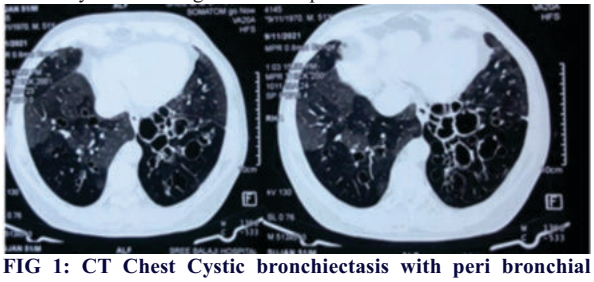

FIG 1: CT Chest Cystic bronchiectasis with peri bronchial thickening in the central region of both lungs

Colonoscopy FIG 2 HPE: Chronic Colitis

DISCUSSION

Aside from being less common, there is an established link between bronchiectasis and inflammatory bowel disease (IBD)[1]. Inflammatory bowel diseases are autoimmune diseases characterized by inflammation of bowel wall, in which the parts of the gastrointestinal system are attacked by the body's immune system. The two main forms of this inflammatory bowel disease are ulcerative colitis and Crohn's disease. IBD is a genetically predisposed condition characterised by chronic intestinal inflammation brought on by host-microbial interactions. Sometimes IBD patient's manifests with extra-intestinal involvement and systemic presentations that are observed commonly in 21 to 41 percentage of victims subjected with inflammatory bowel disease, increases with the course of intestinal disease. The most frequent presentation of pulmonary manifestations which has strong association with Ulcerative colitis is large airway disease.

The pathophysiology behind the development of bronchiectasis is amply researched and several correlations are discovered. The persistent inflammation and on-going tissue destruction (oft-quoted vicious cycle) is thought to have its ante ceded origin from the pre-existing inflammatory damage in the bronchial tree[2]. Frequently observed manifestations of respiratory tract involvement are inflammation in the bronchus and suppuration of the lung parenchyma. Although debates about whether the immune systems of the lung and the gut are separate or partially related have not yet been resolved, it is thought that both B cells and T cells that produce IgA move to the lung from the gut[3]. Inflammatory injury at either of the sites, may result from responses of auto antibodies or the same antigen such a bacteria being inhaled. Although the respiratory system's involvement is relatively uncommon, it can occasionally be dangerous. The lack of a detailed or well summarized link between the autoimmune inflammatory condition (such as Crohn's disease) and infectious progressive lung disease like bronchiectasis suggests uncommonness and also increases the likelihood that there may be chance[4]. The systems affected other than intestinal tracts, develops secondary manifestations such as in the lung that becomes serious reason for morbidity and may render the patient with more suffering and negatively impact the quality of life. The lung manifestations may differ and frequently pose a challenging diagnostic process and demand a thorough workup. Although they usually manifest in subjects with a prolonged history of IBD, symptoms of airway involvement may appear years prior to the onset of the first bowel disease symptoms.

Evaluation for accurate diagnosis appropriates a three step process-history tracking and clinical examination, x ray imaging of chest and pulmonary function test and their correlations. To reach a final diagnosis, invasive procedures like bronchoscopy and thoracoscopy are frequently needed. Treatment mainly followed is Steroids.

A recent research studied the pulmonary function test (PFT) results and the significance of the abnormal findings in this patient population was observed. The study results showed increased but not significant abnormal findings. Results of the pulmonary function showed findings with characteristics of both destructive and obstructive respiratory patterns. The ubiquitous results on pulmonary function that observed were reduced forced expiratory volume in 1s, forced expiratory flow, FEV1: FVC ratio, and transfer coefficient for carbon monoxide (DLCO), DLCO/ alveolar volume[5].

CONCLUSION

In the presence of IBD, it must be essential to maintain a close screening and broader estimate presuming that there is possible chance of future pulmonary disease and in order to implement the adequate early treatment and prevent further complications[6]. Pulmonary symptoms of IBDs have a wide range of incidence and are well outlined. Both at CT scan and bronchoscopy, the diffuse effect of the

inflammatory process is consistent with a relation to inflammatory bowel disease[7]. Bronchiectasis is the most often reported pulmonary presentation and its incidence is 66% of IBD cases involving the large airways. Extra intestinal manifestations must be distinguished as much as possible from the consequences due to inflammation in the gastrointestinal tract and from the adverse responses of medications taken to treat it. Early detection of pulmonary manifestations is essential to relieve patients' symptoms and prevent further deterioration of their health status.[8]

REFERENCES:

1. Kraft SC, Earle RH, Roesler M, et al. Unexplained bronchopulmonary disease with inflammatory bowel disease. Arch Intern Med 1976;136:454–9.
2. Eaton TE, Lambie N, Wells AU. Bronchiectasis following colectomy for Crohn's disease. Thorax 1998;53:530–1.
3. Mahadeva R, Flower C, Schneerson J. Bronchiectasis in association with coeliac disease. Thorax 1998;53:528–9
4. Camus P, Piard F, Ashcroft T, et al. The lung in inflammatory bowel disease. Medicine (Baltimore) 1993;72:151–83
5. Zhang YZ, Li YY: Inflammatory bowel disease: pathogenesis. World J Gastroenterol. 2014, 20:91-99.10.3748/wjg.v20.i1.91
6. Larsen S, Bendtzen K, Nielsen OH. Extraintestinal manifestations of inflammatory bowel disease: epidemiology, diagnosis, and management. Ann Med 2010; 42: 97-114 [PMID: 20166813 DOI: 10.3109/07853890903559724]
7. Neilly JB, Main AN, McSharry C, et al. Pulmonary abnormalities in Crohn's disease. Respir Med 1989;83:487–91.
8. Storch I, Sachar D, Katz S. Pulmonary manifestations of inflammatory bowel disease. Inflamm Bowel Dis 2003; 9: 104-115 [PMID: 12769444 DOI: 10.1097/00054725-200303000-00004]