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Original Research Paper

Pediatrics

EARLY DIAGNOSIS AND RIGHT TREATMENT IN A CHILD WITH BRONCHIECTASIS

Dr. Charu Jha — MBBS, MD Pediatrics, DNB Pediatrics, Department of Pediatrics, Topiwala National Medical College and BYL Ch Hospital, Dr. A.L Nair Road, Mumbai-400 008, Maharashtra, India.

Dr Kaustubh Abnave — DCH(Pediatrics), DNB Pediatrics: Senior Resident, Department of Pediatrics, Topiwala National Medical College and BYL Ch Hospital, Dr. A.L Nair Road, Mumbai- 400 008, Maharashtra, India.

ABSTRACT Bronchiectasis is a sequel to permanent chronic airway inflammation and defined as 'irreversible bronchial dilatation'. It is increasingly being recognized with the wider availability of high-resolution computed tomography(HRCT).We report a case of bronchiectasis which was treated as asthma for many years later diagnosed with the help of HRCT.

KEYWORDS :

INTRODUCTION

Classical definition of bronchiectasis is permanent, irreversible, localized abnormal dilatation of bronchi that ends with fibrosis(1). One of the causes of bronchiectasis is transmural lung infections (pulmonary tuberculosis, pneumonia). Chronic inflammation result with failure to clear mucoid secretions and destruction of lung tissue especially elastic fibers.

This can also be genetic. In cystic fibrosis there is more viscous sputum. In primary ciliary dyskinesia the problem is inability to clear sputum because of genetic reasons. The pathophy siology is still not well defined. The other causes are primary and secondary immunodeficiencies, connective tissue diseases, allergic bronchopulmonary aspergillosis. Bronchiectasis is increasing in prevalence with current rates estimated between 53 and 566 cases per 100000 people(2,3).

Case Report

8 years old male child 4th by birth order , Born of non-consanguineous marriage came with complaints of repeated episodes of cough and cold on and off for 2-3 years currently came with respiratory distress and fever for 2 days, On examination patient was conscious, oriented, cachexic temperature of 39 degree celcius, Pulse Rate- 122/min, Respiratory Rate- 57/min , Blood Pressure- 110/72 mmHg , intercostal and subcostal retractions present, nails- clubbing present grade

3, no edema, lymphadenopathy, pallor, cyanosis, not able to speak full sentence. Systemic examination Respiratory findings were AnteroPosterior diameter > transverse, bulging present bilateraly, Expansion equal on both sides, movement thdecrease bilaterally. Apex beat palpated in 5 intercostal space in Mid Clavicular Line, resonant note present, on auscultation fine crepitations and expiratory wheezing present bilaterally.

Child developed cough 2 days back productive associated with whitish viscous sputum, non blood tinged, non foul smelling, increase in supine position, no change with diurnal variation. He developed fever since 2 days moderate grade not documented subsided by oral medications.

History of multiple episodes of rapid breathing with distress in form of intercostal and subcostal retractions with thick mucoid sputum for which nebulisations and antibiotics were given in past.

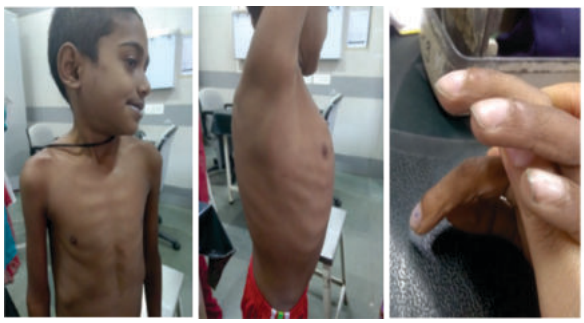
Child is a k/c/o pulmonary koch's and has received Anti Koch's Therapy both for 6 and 9 months respectively at the age of 4 yrs and was admitted in view of similar complaints for 6-7 times and was on mechanical ventilation for about 2 weeks 1 year back.

Child had developed bilateral pneumothorax when he was admitted for the first time and intercostal drainage was put. He was given antibiotics and nebulisations at the time of hospital stay. At our place HRCT was done that was suggestive of diffuse bronchiectatic changes diffusely affecting the entire lung parenchyma with peribronchiolar thickening and filling in mucous within dilated bronchioles. Centrilobular nodules showing tree in bud pattern suggestive of Endobronchial tuberculosis. Bilateral pleural effusion was present. CT turned out to be a turning point in our diagnosis, if it was not done, patient would have been managed as asthma or just tuberculosis.

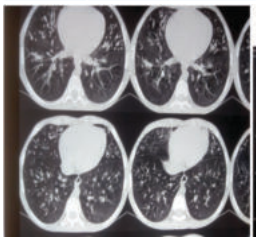
Patient started on then GOLD regimen i.e beta2 agonists, ipratropium nebulisations with oral aminophylline and oxygen concentrators which helped him a lot.

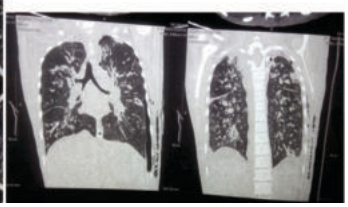
DISCUSSION

Bronchiectasis is a progressive, irreversible bronchial dilatation that has been shown to be resistant to long-term follow-up. Inflammation and infectious damage to the bronchial and bronchial walls result in a vicious cycle and ultimately bronchiectasis. Our understanding of the pathophysiology is limited. There is a "vicious cycle hypothesis" remains central to our understanding. The key components of the diseases are chronic inflammation, impaired mucociliary clearance, chronic bronchial infection and structural lung damage. There are new tests which can be used for diagnosing bronchiectasis measurement of differential blood count, immunoglobulins(IgA, IgM, IgG) and screening for allergic bronchopulmonary aspergillosis. Sputum culture is recommended for monitoring bacterial infections and when non-tuberculous infection is suspected.



	Aug 2017	Oct 2017	Jan 2018	Aug 2018	Oct 2018	Dec 2018
Hb	10.5	12.1	12.7	11.8	11.8	13.4
WBC	7000	6200	11000	20000	14000	33000
Platelet	297000	306000	294000	471000	47000	55000
pH HCO3 PCO2 PO2	7.369 29 51.8 64.8	7.38 26.5 49.7 66.1		7.29 36.6 77 101	7.3.3 32.1 52.4 84	7.378 29 48 76.8
Na/K	134/4	132/4.2	138/3.6	135/4.2	136/4.1	134/4.3
Cretinine	0.4	0.5	0.4	0.6	0.5	0.6
Ca/ PO4	7.6		9.6/4.4	8.4	8/4	





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