

Original article:

Bronchoscopy in evaluation of wheezing lung- a series of 4 case reports

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Abstract:

A series of 4 cases admitted in a period of one year from jan.2014-jan.2015 in our department of pulmonary medicine,k.i.m.s teaching hospital, amalapuram. With wheeze and dyspnea. after all investigations, these three cases are proved into different non asthmatic diseases. these three cases were treated outside our hospital . For wheezing chest with bronchodilators and steroids.they are not improved and finally came to us for admission .the first case, a 60 year old female with stridor and breathlessness on bronchoscopy showed right vocal cord growth and its biopsy turned into malignant dysplasia. the second case of 65 year old male treated as smear negative Pulmonary tuberculosis with anti-tb drugs .still after 2 months of anti-tb drugs ,the patient is having persistant cough, wheeze and breathlessness. on bronchoscopy, we found Right main bronchus narrowed by intra bronchial growth. on biopsy ,it was proved as squamous cell carcinoma .third case also admitted for breathlessness and hoarseness of Voice was admitted provisionally as copd with exacerbation. but,on bronchoscopy showed left vocal cord growth which on biopsy revealed the underlying cancer. All these four cases were initially presented with wheeze and breathlessness but on bronchoscopy they turned into bronchial carcinoma and vocal cord cancers. Our conclusion was, all cases of breathlessness and wheeze which were not improved by regular bronchodilator therapy should be investigated by bronchoscopy to rule out Underlying non-asthmatic conditions.

Introduction:

"all that wheezes is not asthma,all that wheezes is obstruction." wheeze is a common manifestation of respiratory illness in adults ,while wheezing typically lungs to mind airway obstruction for bronchoconstriction or mucus Production due to asthma or copd.wheezing is also caused by spectrum of other processes that cause air flow limitation.(1-4) a wheeze is a continious musical sound Produced by oscillation of opposing walls of an airway at point of narrowing.(5-6) stridor refers to inspiratory mono phasic wheeze that is loudest over the anterior Neck,typically of high pitched.expiratory wheeze appreciated either by history or physical examination is

neither sensitive nor specific for asthma.(1,17,19) So systemic asthma can present without wheeze,while wheezing associated with other conditions can mimick asthma.in our study,all these 3 cases admitted for wheezing were Finally proved into differnet non-asthmatic conditions.

Materials and methods:

Case-1:

A 60 year old lady came to our out patient department with cough,breathlessness since 6 months.she was treated by bronchodilators,steroids and antibiotics by a local doctor at her native place.as there was no improvement,she was reffered to our hospital.on examination,she was anxious,dyspniec with bilateral

wheeze. we investigated her with chest x-ray, cbp, sputum microscopy for afb and culture and sensitivity. chest x-ray was reported as normal study, sputum afb was negative, sputum culture sterile 20 mm/hr and cbp within normal limits. pft was inconclusive because of poor effort of the patient. provisionally diagnosed as uncontrolled asthma, we started salbutamol, ipatrpium nebulisation and hydrocortisone. as there was no relief, we posted her for bronchoscopy for further evaluation. on bronchoscopy, we found an irregular fleshy pedunculated growth from right vocal cord. it was moving freely inside and outside vocal cords during respirations and difficult to hold for biopsy. we taken biopsy after Adrenaline spray to avoid bleeding. biopsy sent for histopathology was reported as malignant dysplasia. in our case growth was found during bronchoscopy unexpectedly at vocal cord and biopsy taken without any complications. it was a malignant tumor instead of benign as we suspected by its fleshy, movable, pedunculated nature.

Case -2:

A 75 year old male patient complains of cough, breathlessness since 5 months. patient was apparently normal before 5 months and developed cough of gradual onset with wheeze. chest x-ray from their local hospital showed a small right apical cavity and a large cavity at right lower lobe. diagnosed as cavitary pumary tuberculosis, anti-tb drugs were started. after 2 months of att, there was no improvement and patient was having persistant cough. when patient was developed cough with streaky heamoptysis . He was brought to our pulmonology department for further evaluation. we took one more chest x-ray and sputum for acid fast bacilli. chest x-ray showed a large cavity with fluid level at right lower lobe, a small cavity at right apex and a minimal plueral effusion. sputum for afb was negative for 2 days. then we posted the case for fibroptic bronchoscopy. bronchoscopy done which revealed an intra bronchial growth in right main bronchus 2 cm away from carina obstructing the

lumen. Biopsy was taken from growth and sent for histopathological examination. biopsy report suggested as well differentiated squamous cell carcinoma. HRCT chest done for staging of cancer, showed rib metastasis on left thorax and right main bronchus growth with right lower lobe cavity. patient was referred to cancer hospital for further management.

Case-3:

A 70 year old male patient complains of cough, expectoration, breathlessness and hoarseness of voicesince 1 month. on examination, patient was dyspniec, having bilateral diffuse ronchi all over chest. chest x-ray showed increased bronchovascular markings with depressed domes of diaphragm, suggestive of copd. Patient was treated with salbutamol, iptropium bromide nebulisation and intravenous hydrocortisone with antibiotic erythromycin. patient was improved but still dyspniec with persisting hoarseness of voice. patient was posted for flexible bronchoscopy after sputum status for tuberculosis was negative. CT scan thorax showed normal study. on bronchoscopy, we found a lenear growth on left vocal cord inner margin. biopsy was taken from growth, which confirmed it as well differentiated squamous cell carcinoma. copd with left vocal cord carcinoma was reffered to cancer hospital for further management.

Case4:

A 90 year old male patient complains cough with expectoration, hoarseness of voice, dyspnea and dysphagia since 1 month. cough is progressive more on taking food. sputum is whitish, copious and dyspniec on exertion. patient had dysphagia and hoarseness since 1 month, more for solids. he is a chronic smoker since 50 years but not an alcoholic. on clinical examination lungs had bilateral ronchi. ct thorax showed bilateral apical fibrotic scarring small areas of nodular atelactasis and lenear atelactatic areas. distal esophagus showed eccentric mural thickening 37mm causing mild luminal narrowing ? fsophageal liomayoma. tiny cystic lesions noted in the visualised right lobe of liver, largest

lesion approximately 2.6-1.9cm.flexible fibroptic bronchoscopy showed left vocal cord growth and biopsy taken for histopathological examination showed poorly differentiated squamous cell carcinoma.

Discussion:

Since introduction of bronchoscope in 1968,fob became an important diagnostic technique in a variety of pulmonary diseases.(ref 8).fob can be performed safely in a teaching hospital with appropriate preparation,supervision,and adherence to protocol.(r.9).evidence based recommendations on managing hoarseness suggested,clinician should visualise the patient's larynx when patient's hoarseness fails to resolve by a maximum three months after onset or irrespective of duration if a serious underlying cause is suspected.(r.10).bronchoscopy is used to make a diagnosis most commonly for conditions 1.persistant cough 2.heamoptysis,3.abnormal chest x-ray as mass,nodule or inflammation,4.evaluation of lung infection.(r.11)fob was useful and safe in assessment of central airway obstruction from benign and malignant disease.(r.12).bronchoscope was aided in establishing a diagnosis and planning of definite management in our 2nd case of intra bronchial growth.(r.13)bronchoscopic vocal cord biopsy under local anesthesia is possible.(r.13).it is an achievement in diagnosing hoarseness of voice and dyspnea in our 1st and 3rd cases also.local anesthesia and mild sedation were used for laryngeal evaluation with fibroptic bronchoscopy.tumor grade was established and air way was secured to perfoem biopsy of vocal cord tumor.(r.14,15)in our 1st case,we did bronchoscopy and found right vocal cord mass which is moving in and out of larnx during each respiration. bronchoscopic biopsy taken from vocal cord proved as malignant

dysplasia.endoscopic treatment with carbon dioxide laser is prefarable in ca -in -situ,inmicroinvasive cancer, or superficially invasive cancer of larynx.(r.18).in unilateral vocal cord paralysis,the functional rate of recovery is 0% if the cause is neoplasm(r.17) in case 3rd also bronchoscopic biopsy of left vocal cord proved as malignant and we referred the case to cancer hospital.in case 2nd,fob showed right main bronchus narrowing due to intrinsic growth which on biopsy revealed ,well differentiated squamous cell carcinoma.all these three cases admitted for dyspnea and wheeze with different diagnosis,first case as uncontrolled bronchial asthma,second case as smear negative pulmonary TB and third case as copd with exacerbation.by bronchoscopic vocal cord biopsy,the first case proved as malignant dysplasia,the second case turned into right mian bronchus malignancy with intra bronchial obstruction leads to right lower lobe cavity formation.the third case of copd with hoarseness voice on bronchoscopy showed left vocal growth which on biopsy proved as carcinoma. All these three cases were diagnosed and confirmed only after bronchoscopy,so bronchoscopy is the diagnostic tool in all such difficult cases of wheezing chest .

Conclusion:

- 1.Fibroptic bronchoscopy is the diagnostic test for many cases of wheeze and dyspnea to rule out underlying pathology.
- 2.Bronchoscope is preferable to find laryngeal growth and to do biopsy safely.we can avoid emergencies by bronchoscopy to secure the airways and also bleeding and dislodging of tumor.

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