

Case Report

Life Threatening Asthma-Induced by Severe GERD.

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Abstract: The prevalence of gastro-esophageal reflux (GERD) in Asian population is reported to be lower than in western population. Extra-esophageal presentation of (GERD), such asthma, paroxysmal laryngospasm, excessive throat phlegm, chronic cough, laryngeal disorders, postnasal drip and various ENT symptoms, have been widely recognized and reported from the Western world, but few from the Asian countries. Our case an eminent cardiovascular surgeon of China (him self patient and first author is baffling and interesting as he was picked up only on PH manometry). Conclusion: We reported a patient Atypical GERD with severe respiratory symptoms and no gastrointestinal symptoms who was cured by laparoscopic fundoplasty. Conclusion: A subgroup of patients among those diagnosed as asthma has only atypical presentation of GERD. We propose a possible mechanism of reflux spraying the larynx based on esophageal barium exam. All patients with severe respiratory symptoms, especially asthma should be evaluated for GERD.

INTRODUCTION

Extra-esophageal presentations of gastro-esophageal reflux (GERD), such as asthma, paroxysmal laryngospasm, excessive throat phlegm, chronic cough, laryngeal disorders, postnasal drip and various ENT symptoms, have been widely recognized and reported^{1,2}. We report a patient with perfect control of all respiratory symptoms after laparoscopic fundoplasty.

CASE REPORT

A 68 year old male Asian doctor had meal and sleep related cough, sputum and respiratory difficulty with repeated attacks of respiratory distress and suffocation since 2002. He was otherwise healthy and had no history of smoking, taking alcohol or allergy. He had no family history of asthma, allergy or operations. He used to have severe attacks of nocturnal wheezing, respiratory difficulty, air hunger, orthopnea and tachypnea which used to be better on change of sleep posture. His relevant investigations including CT scan, MRI Chest Skiagram, tracheoscopy and cardiac evaluation were essentially normal. As time passed and a very busy compassionate extremely competent surgeon that he is, always working to the fullest of his capacity his eating related cough become worst. Large amount of phlegm accompanied during and after meals. Time of eating meal prolonged and quantity of meal reduced, as he was apprehensive of the attacks. Any thing spicy precipitated the attacks. He modified his diet and lost 5 kg of weight. He was diagnosed by an ENT Surgeon as "typical allergic rhinitis" "with out means of cure". With time symptoms to some extent. He required emergency admission to a University hospital four times. On each admission he was managed with oxygen (Once with Respirator), bronchodilators inhaled and Intravenous steroids. The diagnosis each time remained bronchial asthma.

During fourth admission in October 2005, the patient himself requested investigations for GERD as one of his close friends had him investigations during one of the International congress after he had observed him during Banquet. During investigations upper Gastrointestinal Endoscopy was normal. 24 hours Ph monitoring revealed 220 total reflux episodes, the time in reflux was 9.7%; seven reflux episodes were greater than 5 minutes in duration ; the longest episode for reflux was 40.3 minutes occurred at 22.58 and the total minutes for reflux were 169 minutes. The Johnsan/DeMeester Dist

Channel Composite score was 84.4. On Esophageal manometry the total length of LES was 2.5cms, LES pressure was 4.5 mmHg (normal 10 - 45 mm Hg), the relaxation pressure - 26 mmHg (normal less than 8mmHg) the relax rate was 20% (normal more than 80%) the amplitude of distal esophagus was 39 mmHg (normal more than 50 mmHg). High doses of Omeprazole with Domperidone and asthma medication including steroids made slight difference and symptoms were relieved to some extent for three months now the waking period with episodes of wheezing shifted to 4 to 5 AM and intensity of symptoms reduced but did not stop at all.

On 9th Feb 2006 he was again admitted through emergency due to extreme air hunger with cynosis after dental treatment. He had fallen into a status of extreme air hunger because of severe laryngospasm and excessive phlegm. He required ventilatory support for over 2 hours. He recovered and returned to work. In view of continuing life threatening attacks and relaxed lower esophageal sphincter (which could not be effectively treated with Medical treatment) laparoscopic fundoplasty was performed on 25th March 2006. During surgery a small Diaphragmatic Hernia was also noticed and treated. Barium study the following day was out was normal. Patient did not have nocturnal awakening, cough, Phlegm and asthmatic attacks. For the first time in many years patient could sleep on a flat bed with having to raise the upper half of body. His hoarse voice was clearer and quality of life has improved remarkably.

DISCUSSION

Patients with GERD presenting as respiratory distress, diagnosed and treated, as asthma with repeated emergency admissions is rare. Our patient had respiratory distress, including intractable sleeping and meal related cough, large amount of sputum, and episodic attacks of suffocation without gastrointestinal symptoms, diagnosed and treated, as asthma on each admission is rare.

In our case, daily frequency of acid exposure of 220 times on pH metrey, results in acidification of the larynx including the cord, epiglottis, etc. Therefore, the larynx, the vocal cord and epiglottis, etc had a constant inflammation all the time, any stimulation whether from eating, dentist spraying; air may immediately trigger an instantly severe cough and the secretion from the respiratory system. Prolonged asthma treatment with bronchodilators, contribute further, and to GER. Fundolpasty controlled the reflux precisely indicated by the

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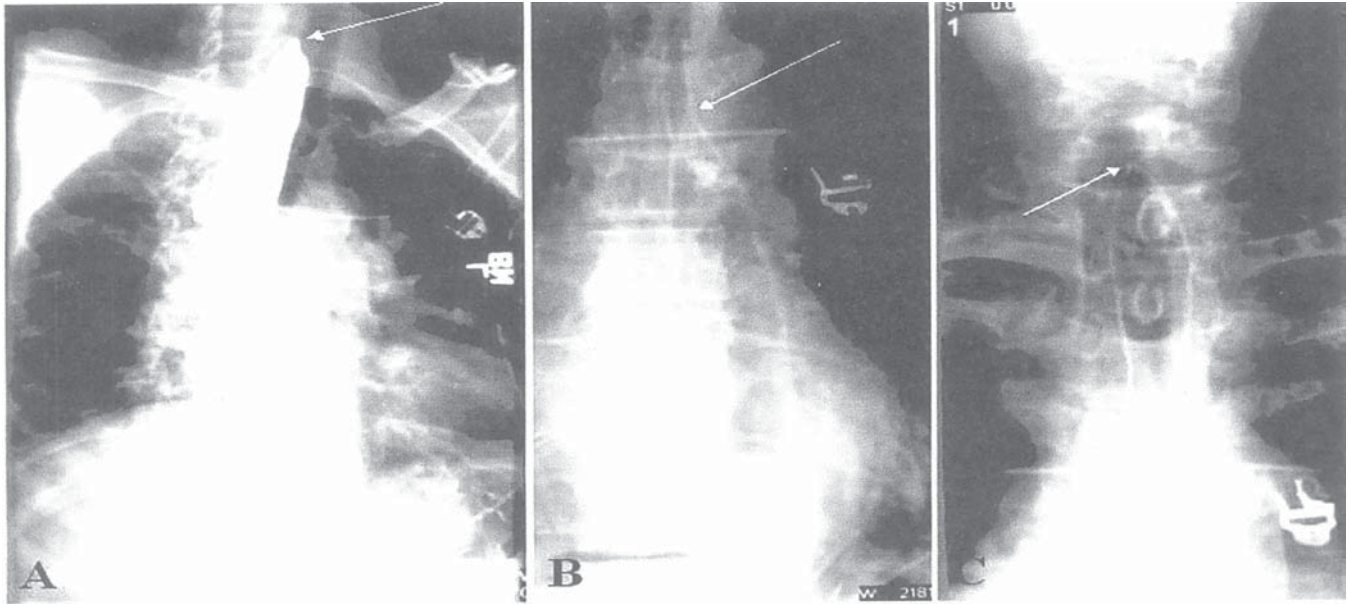


Fig 1: Barium esophageal exam showing A: Barium in the esophagus under-fluoroscopic monitoring; BMS. Film was taken at about 2/3 barium has passed; C. about 4/5 barium swallowed.

complete disappearance of his respiratory symptoms and discontinuation of treatment both for asthma and GERD.

In a patient with severe GERD, the marked respiratory symptoms could be due to a strikingly narrowed beak-like nuzzle (arrows in Fig 1A,BMS,C) with distinctly tapering process clearly. This passion corresponds to the level of larynx, at which a spraying mechanism is establishing while the severe reflux occurs.

In the Western countries, 7%-15% of the population has GERD. In the United States, it is the third most common GI disorder, after infectious diarrhea and gallstones, and affects 19 million US adults, expands annually for 4,590,000 outpatient visits and 96,000 hospitalizations amounting to USD 19 billion in annual costs [2]. However, it claimed to be much less the Asian area. (3) In the absence of suggestive symptoms and esophagitis the diagnosis of GER may be missed on routine endoscopy or barium swallow. A hiatus hernia can also be missed if the barium study is not conducted in head down position. 24 hr pH monitoring are manometry are handy diagnostic tool for GER without evidence of esophagitis.

A high prevalence of GERD in asthma patients has been reported from Western world^{2, 5-6}, however, there is little data from Asia. An increased prevalence of GERD has been observed in both children and adults with asthma, and the association between GERD and pulmonary disease is further supported by the reduction or even disappearance of asthmatic symptoms after surgical or medical treatment of acid reflux^{7, 8}. Matulova, in a series of 86 patients with PPIs and prokinetics, demonstrated no step down in requirement of maintenance therapy, but a decrease in need for rescue medications in 50% of patients with real asthma, it is not easy to produce a curative or a remarkable effect even if an asthmatic therapy is combined. however there would be a group of patients with respiratory symptoms, in whom after treatment of GERD; the respiratory symptoms can be completely controlled. Our patients with GERD may have intractable cough, respiratory distress, asthma or asthmatic attacks. He had repeated life threatening asthmatic attacks but had only GERD; the respiratory symptoms were due to severe gastro esophageal reflux. After Nissen laparoscopic procedure, a complete

cure was achieved.

Should we change concept a little bit? GERD may be indistinguishable from asthma, Medical workers and public should note that perhaps in many patients with severe asthma and uncontrolled asthmatics, need to be investigated to exclude atypical presentation of GER.

CONCLUSION

We report a patient with GERD with severe respiratory symptoms and no gastrointestinal symptoms who was cured by laparoscopic fundoplasty. A subgroup of patients among those diagnosed as asthma, have only atypical presentation of GERD rather than asthma. We propose a possible mechanism of reflux spraying the larynx based on esophageal Barium exam. All patients with severe respiratory symptoms, especially asthma, should be evaluated for GERD as well. We re-emphasize that there is some percentage of patients of diagnosed as asthma who have only GERD and not asthma, the exact number needs to be further explored and identified.

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