

Nocturnal Cough and Esophagogastric Polyp: Causal or Casual Association?

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A 6-year-old boy presented with nocturnal cough of 8 months duration. Upper gastrointestinal endoscopy (UGIE) showed an esophagogastric polyp and esophagitis. The 24 hours ambulatory pH recording revealed moderate gastro esophageal reflux (GER) and esophageal manometry demonstrated hypotensive lower esophageal sphincter (LES). A diagnosis of gastroesophageal reflux disease (GERD) with hypotensive LES and inflammatory esophagogastric polyp was made. The child's symptoms subsided with antireflux treatment.

Key words: *Esophagogastric polyp, Gastro esophageal reflux, Nocturnal cough.*

Gastroesophageal reflux disease (GERD) has a wide spectrum of clinical manifestations which includes both esophageal and supra esophageal symptoms. Depending on the age of the child respiratory symptoms such as apnea, stridor, reactive airway disease, cough or laryngitis can occur. Knowledge of the link between GERD and respiratory disease is essential for effective therapy.

Case Report

A 6-year-old boy presented with nocturnal cough of 8 months duration. The cough was insidious in onset, disturbed his sleep and was more on lying down. This symptom did not occur during the day nor was it induced by exercise, however his school performance was affected as his sleep was disturbed. He had no fever, nasal catarrh, sneezing or watering

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Manuscript received: July 10, 2006;

Initial review completed: August 30, 2006;

Revision accepted: March 30, 2007.

of eyes. He had not lost weight though occasionally he had post-tussive vomiting. There was no history of wheeze, chest pain, palpitation, regurgitation, vomiting, retrosternal burn, gastrointestinal bleed, contact with tuberculosis. There was no history of atopy or asthma in the family. He had been treated with several antibiotics, antitussives and bronchodilators but had not responded to therapy; at times bronchodilators even aggravated the cough.

On examination he was comfortable with a weight of 17 kg (<10th centile), height 120 cm (75th centile NCHS chart) without pallor, clubbing or cyanosis. ENT evaluation was normal. He had no wheeze or rales on auscultation of his chest. Other systemic examination was normal. The complete blood count, Mantoux test and radiography of the sinuses and chest were normal. Upper gastrointestinal endoscopy revealed an esophagogastric polyp 0.5 × 1 cm (*Fig. 1.*) on a vertical fold at the squamo-columnar junction (Z line) with grade I esophagitis (Savary Miller grading) with prolapse of the gastric mucosa into the esophagus noticed during retching. The polyp was biopsied and the histopathology revealed gastric mucosa with minimal inflammation whereas the esophageal biopsy demonstrated mild esophagitis with no evidence of Barrett's epithelium or malignancy. 24 hours ambulatory pH revealed moderate GER occurring more during sleep with reflux index of 8.3% (*i.e.* % of recording time with a pH less than 4). The esophageal manometry showed hypotensive LES (pressure <7 mm Hg) with appropriate

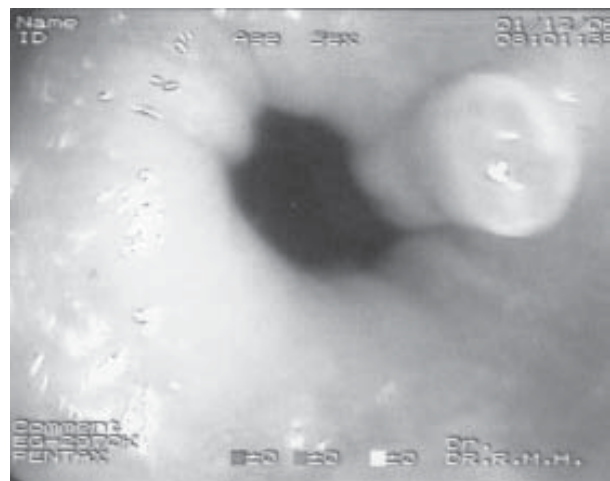


Fig. 1. Esophago-gastric polyp in UGI scopy

response to swallow and normal peristalsis in the body of esophagus.

A diagnosis of GERD presenting as nocturnal cough was entertained with hypotensive LES being the cause of GERD and inflammatory esophagogastric polyp the sequel of GERD. He was started on omeprazole at 1 mg/kg/day and domperidone 0.2 mg/kg/dose thrice a day 30 minutes before each meal. Within a week, the child showed remarkable improvement with complete cessation of symptoms. His school performance and attentiveness also improved. UGIE done after 3 months of regular therapy showed no change in the size of the polyp however the child gained 4 kg after 7 months of therapy. He has been on follow up for over 18 months and the symptoms recur within 2 to 3 days of stopping medications. The parents have been counseled and advised to continue medication till definitive surgery such as fundoplication was done.

Discussion

GER has been identified as the causative factor in 4 to 52% of chronic cough in children and is more common when nocturnal symptoms are present(1). However cough, as a sole manifestation of GERD is uncommon in children(2). The respiratory symptoms in GERD may be due to the broncho-spasm induced by macroaspiration, microaspiration induced stimulation of the upper airway receptors or stimulation of the acid sensitive vagal chemoreceptors in the esophagus.

The lower esophageal sphincter (LES) a high pressure zone (average pressure 18 to 20 mm Hg, 8.5 mmHg at 31 weeks gestation, 12.2 mmHg at 35 weeks and 18.1 mmHg at 37 weeks and above.) is an important defence mechanism in the pathophysiology of GERD(3). Transient lower esophageal sphincter relaxation (TLESR), hypotensive LES and hiatus hernia are some of the adverse factors which affects the function of the LES resulting in GERD and its complications such as Barrett's epithelium, peptic stricture and esophageal adenocarcinoma. This boy had a documented hypotensive LES which was probably initiating and perpetuating the reflux and GERD and the inflammatory polyp was secondary to GERD.

Upper gastrointestinal endoscopy in GERD may be normal or show features of esophagitis in 27%-76%(4). The inflammatory polyp-fold complex (IPFC) is an uncommon endoscopic finding in children. In this complex, an inflammatory polyp at the gastroesophageal junction is present, often in continuity with a prominent gastric fold(s). It is a sequel of GERD but is rarely reported in the studies of children with GERD though isolated case reports are available in literature. These polyps may regress in size with antireflux treatment(5,6). If symptomatic either presenting with dysphagia or bleed they can be removed by endoscopic mucosal resection(7), endoscopic polypectomy(8) or surgery(9).

Pediatricians should be aware of the fact that isolated respiratory symptoms like nocturnal cough may be due to GERD. Endoscopy with histology, 24 hours pH monitoring will help in confirming the diagnosis and in proper management. This case is being presented because of the unusual combination of a common symptom like cough and a rare finding on endoscopy. Inflammatory esophagogastric polyps due to GERD are rare in children and if identified should be biopsied to differentiate it from carcinoma.

Contributors: MS and SoS were involved in preparation of the manuscript, literature review and revision of the article. MS will act as guarantor.

Source of funding: None.

Competing interests: None.

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Pulmonary Sarcoidosis Masquerading as Tuberculosis

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Pulmonary manifestations of sarcoidosis are common and may be initially confused with other common diseases like tuberculosis. We report an 11 yr old girl who presented with chronic cough, low grade fever, recent exposure to tuberculosis and hilar lymphadenopathy. She was provisionally diagnosed as pulmonary tuberculosis and treated accordingly. As she had poor response to anti tubercular therapy, diagnosis was subsequently revised to sarcoidosis by lung biopsy. Treatment with steroids resulted in significant clinical improvement.

Key words: *Pulmonary Sarcoidosis.*

Sarcoidosis is a chronic, multisystem, granulomatous disorder which occurs with an incidence of 0.22-0.27 per 100,000 children per year(1). In

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Manuscript received: March 29, 2006;

Initial review completed: May 12, 2006;

Revision accepted: March 30, 2007.

developing countries like India, sarcoidosis is underreported probably due to lack of awareness and the presence of other more prevalent granulomatous diseases, especially tuberculosis. The diagnosis of sarcoidosis is established when a compatible clinical and radiographic picture is supported by histologic evidence of noncaseating granulomas in affected tissues as well as exclusion of other granulomatous diseases (e.g., tuberculosis, histoplasmosis, blastomycosis). Literature search revealed 12 cases of pediatric sarcoidosis in India. Nine of them were reported from general wards of hospitals while the remaining 3 were from pediatric unit of AIIMS, New Delhi(2,3).

Case Report

An 11-year-old girl presented with history of occasional non productive cough and intermittent low grade fever for 2 months. Few cases of pulmonary tuberculosis were reported recently from school in which she was studying. She was not exposed to organic dust, drugs or recurrent aspiration. On examination she had poor weight gain and pallor. There was no clubbing, skin rash, joint involvement, lymphadenopathy or organomegaly. Chest examination revealed bilateral fine inspiratory crepitations. Her hemoglobin was 10.4 g/dL and erythrocyte sedimentation rate was 30 mm. Mantoux test showed a skin reaction of 10 × 10 mm. Gastric aspirate for acid fast bacillus was negative on three occasions. Sputum had not shown any acid fast bacillus, bacteria or fungus. Chest X-ray (*Fig. 1*)