

## ACUTE BREATHLESSNESS AS A PRESENTING FEATURE OF GASTROESOPHAGEAL REFLUX DISEASE – CASE REPORT

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### INTRODUCTION

Gastroesophageal reflux (GER) is both a normal physiologic phenomenon that occurs in about 20% of the United States general population at least weekly<sup>1</sup> and pathophysiological phenomenon that can result in mild to severe symptoms.

The presence of common symptoms, like heartburn (pyrosis) and regurgitation, usually make the diagnosis of gastroesophageal reflux disease (GERD) fairly straight forward. The excessive reflux experienced by patients with GER overwhelms their intrinsic mucosal defense mechanisms, resulting in many symptoms. The symptoms of GERD often wax and wane in intensity, and may even go into spontaneous remission. Gastroesophageal reflux disease can cause typical (esophageal) or atypical (extraesophageal) symptoms.

The atypical symptoms of GERD often include chest pain, asthmatic symptoms, cough, gingivitis, laryngitis, hoarseness and earache.<sup>2</sup>

Breathlessness presenting as asthmatic attacks is found in 5.4% of Nigerian, 15.3% of the United Kingdom population and in 10.9% in the USA<sup>3</sup> and it is a well recognized atypical presentation of GERD.

The objective of this case report is to sensitise clinicians and general practitioners to atypical symptoms of GERD leading to the so-called supra-oesophageal presentation of GERD. A case report of a Nigerian with GERD who presented as acute breathlessness is here presented.

### CASE REPORT

A.O, a 41-year-old female staff Nurse presented at the A&E with a day history of dry cough, sudden breathlessness and retrosternal chest pain. Breathlessness was associated with orthopnoea and palpitations. Chest pain was sharp, with radiation to the right hemithorax and was alleviated by sitting up and use of cimetidine, which she had often used for the chest pain. There was a positive history of regurgitation of food. Similar chest pain had been recurrent since childhood. She had no history of waterbrash, hypertension, diabetes, atopy, asthma or stress-induced chest pain.

Clinical examination revealed a middle-aged, average build (BMI=22.3Kg/m<sup>2</sup>) woman, lying in cardiac position, dyspnoeic and tachypnoeic, afebrile, acyanosed with no pedal oedema. Cardiovascular examination was essentially normal. Examination of the respiratory system only revealed respiratory rate of 24 cycles /minute. Abdominal examination revealed mild epigastric tenderness.

A diagnosis of Gastroesophageal Reflux Disease was made to rule out Ischaemic heart disease.

The Electrocardiogram, echocardiography and chest X-ray were essentially normal. The abdominal ultrasound scan and full blood count were also normal. Esophagogastroduodenoscopy revealed incompetent lower esophageal sphincter and marked inflammation of the lower 1/3 of the esophagus. The corpus and antrum of the stomach also showed moderate inflammation. No mass lesion was seen.

Biopsy showed severe mucosal inflammation with numerous helicobacter pylori-like organisms in the antral biopsies. Patient was commenced on anti-H.pylori triple regimen with esomeprazole, amoxicillin and clarithromycin and domperidone. There was dramatic improvement in the symptoms, which recurred after stopping the drugs.

Patient is currently on maintenance dose of esomeprazole.

### DISCUSSION

Atypical, extraesophageal reflux disease (EERD) symptoms, such as asthma, noncardiac chest pain, and hoarseness, are often not recognized and therefore are poorly managed<sup>4</sup>.

Asthma, bronchopulmonary infections, chest pain, recurrent laryngitis, laryngeal and oesophageal cancers,

and globus pharyngeus often complicate GERD and require high index of suspicion to diagnose.

The occurrence of gastroesophageal reflux after bedtime is strongly associated with asthma and respiratory symptoms, including obstructive sleep apnea. The partial narrowing or occlusion of the upper airway during sleep, followed by an increase in intrathoracic pressure, might predispose the patient to nocturnal gastroesophageal reflux and, consequently, to respiratory symptoms<sup>5</sup> from aspiration.

An association between gastroesophageal reflux (GER) and lung diseases has for some time been known to exist. The aspiration of gastric contents and bronchoconstriction mediated by the vagus nerve, has also been suggested as an explanatory mechanism<sup>5</sup>. This vagal mechanism is likely responsible in our patient since the chest x-ray was found to be unremarkable. A case controlled questionnaire based survey of a large group of asthmatic and control subjects found that 77 per cent of asthmatic subjects reported heartburn and 55% reported regurgitation significantly more than the controls.<sup>6</sup> Moreover clinical data have suggested that treatment of GERD in asthmatics usually improve respiratory symptoms<sup>7,8</sup>.

The relief of the symptoms in our patient with erect posture misled us to attribute this to orthopnoea, which is essentially a cardiac symptom. However, improvement with cimetidine gave the diagnosis away. It is our interest therefore, to draw clinicians' and general practitioners' attention to consideration of this atypical presentation of GERD in patients presenting with acute breathlessness and chest pain, especially when investigations for respiratory and cardiac causes are negative. This will afford early diagnosis and institution of appropriate treatment, which also serves to prevent longterm complications such as strictures, Barrett's oesophagus, oesophageal adenocarcinoma and laryngeal carcinoma. It is also advisable to try acid suppressing therapy in patients with recurrent chest pains with recumbent exacerbation.

Other modalities of therapy are lifestyle measures which include weight loss, small meals and avoidance of provoking substances such as chocolate, coffee, fatty foods, mint, smoking and alcohol. Antacids after meals and at bedtime are only useful in mild cases and could be used along with alginates. H<sub>2</sub>-receptor blockers [cimetidine, ranitidine, famotidine, nizatidine] for 6 to 12 weeks are effective in mild to moderate GERD and are also good as maintenance therapy. Prokinetic drugs like metoclopramide, domperidone, mosapride and cisapride improve esophageal clearance but are only useful in mild cases.

Surgery is important in the management of complications such as perforation and in the management of big hiatus hernia. Open or laparoscopic Nissen fundoplication is effective in patients that are refractory to medical therapy and those with hiatus hernia.

Newer modalities are endoscopic gastroplasty, endoscopic implantation of biopolymer hydrogel prosthesis, laparoscopic adjustable gastric banding, radiofrequency ablation and endoscopic procedures, they are less invasive and have fewer complications than antireflux surgery.

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