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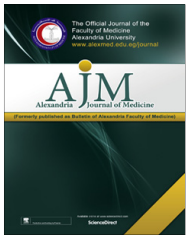

ORIGINAL ARTICLE

Prevalence of reflux esophagitis among patients undergoing endoscopy in a secondary referral hospital in Giza, Egypt

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KEYWORDS

Reflux esophagitis;
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Abstract *Background:* Gastro-esophageal reflux disease (GERD) is one of the most prevalent diseases seen in western countries. The prevalence of GERD is lower in the Asian population and the spectrum of the disease is mild. Data from Africa and the Middle East are sparse.
Aim: The aim of the study was to determine the prevalence, severity and risk factors of reflux esophagitis (RE) among patients undergoing endoscopy in a secondary referral hospital in Egypt.
Materials and methods: This was a retrospective study. Data on patients presenting with gastro-esophageal reflux symptoms (RS) and scheduled for upper gastrointestinal endoscopy between January 2000 and January 2013 were collected.
Results: Four hundred and thirty-three patients were assessed. Two hundred and fifty-four (59%) were male. Ages ranged from 18 to 85 years, mean 45 ± 15 years. One hundred and forty-four patients (33%) had a history of smoking, 120 (28%) were taking aspirin or non-steroidal anti-inflammatory drugs and 8 (2%) were consuming alcohol. The duration of RS ranged from one

Abbreviations: GERD, gastro-esophageal reflux disease; NSAIDs, non-steroidal anti-inflammatory drugs; RS, reflux symptoms; RE, reflux esophagitis; NERD, non-erosive reflux disease; HH, hiatus hernia; BE, Barrett's esophagus; OR, odds ratio; CI, confidence interval; BMI, body mass index.

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month to 20 years, mean 21 ± 30 months. One hundred and forty-six patients (34%) had the RS daily, 70 (16%) classified RS as severe intensity and 99 (23%) had acid regurgitation.
One hundred and six patients (24%) were found to have RE. Ninety-eight of them (23%) showed grade 1. Barrett's esophagus (BE) was diagnosed in seven patients (2%) and esophageal stricture in one (0.2%). One hundred and four patients (24%) had hiatus hernia (HH), 16 (4%) gastric ulcers and 45 (10%) duodenal ulcers. In multivariate analysis, male sex and HH were two independent risk factors for the development of RE.
Conclusion: The prevalence of RE is low among patients undergoing endoscopy. Most of the patients had a mild degree of esophagitis. BE and stricture were rarely seen. Male sex and HH were risk factors of RE.

1. Introduction

Gastro esophageal reflux disease (GERD) is a common chronic disorder prevalent in many countries.[1] It is one of the most prevalent diseases seen in Western countries.[1] Published studies indicate that the prevalence of GERD is lower in the Asian population and the spectrum of the disease is mild.[2] A systematic review identified a 10–20% prevalence of GERD (at least weekly heartburn and/or regurgitation) in the western countries; while in Asia, the prevalence was at $< 5\%$.[3] It has been suggested that there is an increasing trend in the prevalence of GERD over the last two decades and that reflux disease is more common in Asian countries than previously recognized.[4,5]

Age, male sex, obesity, and hiatus hernia (HH) were the purported risk factors for GERD.[1] Changes in preference to a more Westernized diet and lifestyle were considered responsible for the increase in reflux disease in Asia.[6] Epidemiologic data from the Indian subcontinent, Africa, South America, and the Middle East are sparse.[1] There are no population-based studies describing the prevalence of GERD in the African countries.[1]

GERD is a condition which develops when the reflux of stomach contents causes troublesome symptoms and/or complications.[7] Heartburn and regurgitation are the characteristic symptoms of GERD. Patients with GERD symptoms may have no obvious mucosal injury during endoscopic examination, whereas others with GERD symptoms demonstrate esophageal injury such as erosions and ulcers.[8] Therefore, GERD can be subdivided into endoscopy-negative reflux disease or nonerosive reflux disease (NERD) and erosive esophagitis or reflux esophagitis (RE).[8,9]

Esophageal complications of GERD are RE, hemorrhage, stricture, Barrett's esophagus (BE), and adenocarcinoma. BE is an important, potentially pre-malignant complication of GERD and is clearly associated with esophageal adenocarcinoma.[10] BE, which develops as a complication of chronic GERD, is characterized by a change from the normal squamous esophageal epithelium to columnar epithelium. The major reason to evaluate patients with longstanding GERD is to recognize BE. The possible role of GERD induced RE leading to BE has not been clearly established, but possible cellular injury and subsequent healing with columnar epithelium has been hypothesized.[10] Neither the frequency nor the severity of heartburn is useful for the prediction of the presence of RE or BE.[7,11]

Studying racial and geographic differences in GERD and its complications are important as they highlight environmental or genetic influences in etiology and increase our understanding of the disease pathogenesis and management.[1]

The aim of the study was to determine the prevalence, severity and risk factors of RE among patients undergoing endoscopy in a secondary referral hospital in Egypt.

2. Materials and methods

This was a retrospective, hospital-based study carried out at Bolak Eldakror Hospital over a 13-year period from January 2000 to January 2013. Bolak Eldakror Hospital is a secondary-care governmental hospital in Giza, Egypt. The hospital serves a population of nearly one million. The gastrointestinal endoscopy unit was set up in 1999. The endoscopy unit provides an open-access service and receives patients from outpatient clinics and other hospitals in the area. Patients are mainly with lower socioeconomic status. All patients presenting with gastro-esophageal reflux symptoms (RS) were included in the study. Ten gastroenterologists performed all endoscopies. Procedures were performed with well-trained competent endoscopists or supervised trainees. Endoscopic biopsy was done at the discretion of the endoscopist. Pathological examination was performed by two expert pathologists.

2.1. Definitions

Gastro-esophageal RS are defined as heartburn with or without acid regurgitation.[11] RE is defined as mucosal breaks in the lower esophagus, as seen by endoscopy.[12] Severity of esophagitis was defined based on endoscopic findings according to the Savary-Miller grading system.[13,14] Grade 1: single or multiple erosions on a single fold. Erosions may be exudative or erythematous. Grade 2: multiple erosions affecting multiple folds. Erosions may be confluent. Grade 3: multiple circumferential erosions. Grade 4: ulcer, stenosis or esophageal shortening. Grade 5: BE. Columnar epithelium on the distal esophagus observed to rise proximally from the gastric plications and intestinal metaplasia and/or goblet cells found in biopsy samples from these sites was considered as diagnostic criterion for BE. NERD is defined as no mucosal breaks in the esophagus and the patients have typical RS.[12] HH is defined as a circular extension of the gastric mucosa of two cm or more above the diaphragmatic hiatus.[15]