



Original Article

Schatzki Ring: Prevalence and Patient's Characteristics in UAE Population

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Abstract

Background. Schatzki Ring (SR) is a thin, symmetric, mucosal structure located at the gastroesophageal junction. The prevalence of SR is not known in this region.

Objective. To find the prevalence of SR among patients undergoing UGI endoscopy for any indication.

Materials and methods. A retrospective review of all patients who underwent upper gastrointestinal endoscopies that were performed at a single center from May 2015 to Nov 2017.

Results. SR was detected in 33 patients. The prevalence of SR was 0.6% among all upper endoscopies, 5.4% and 9.3% in patients with gastroesophageal reflux disease and with dysphagia respectively.

Conclusion. Prevalence of SR among patients undergoing an upper endoscopic examination is variable based on the indication of UGI endoscopy



Introduction

Richard Schatzki was a renowned radiologist who described a ring-like structure in patients with dysphagia in articles from 1953 to 1963, and that structure would later bear his name. Schatzki Ring (SR) is a thin, symmetric, mucosal structure located at the gastroesophageal junction. It is found in 6-14% of routine barium radiographs in both sexes and is most often asymptomatic. (1-4) Patients with SR can be asymptomatic but also can suffer from dysphagia and food impaction.

Gastroesophageal reflux disease has been implicated in the pathogenesis of SR (5). More recently, an association of SRs with eosinophilic esophagitis (EoE) has been reported (6, 7), although the causal relationship between the two entities is under discussion. (8-10)

The prevalence of SR among patients presenting to endoscopy is relatively under-examined. Furthermore, most of the studies that addressed SR prevalence among patients presenting to endoscopy are from Western countries. (11,12)

The aim of the present study was therefore to find the prevalence of SR among patients undergoing UGI endoscopy for any indication. Furthermore, the prevalence of SR was studied among patients undergoing upper endoscopy for gastroesophageal reflux disease or dysphagia.

Methods

This is a retrospective review of all patients who underwent upper gastrointestinal endoscopies that were performed at a single center from May 2015 to Nov 2017. Upper endoscopic examinations with visual Schatzki ring described by the endoscopist were included in the analysis. Data collected included patients' age and gender, endoscopic findings and maneuvers, presence or absence of SR, and indications for endoscopic examinations.

The prevalence of SR among patients who underwent upper endoscopic examination for any indication was calculated. Furthermore, the prevalence of SR was also studied among patients undergoing upper endoscopy for gastroesophageal reflux disease and dysphagia.

Point estimates and interval estimates were reported for all descriptive data and presented as means \pm the standard deviation. Regarding categorical variables, frequencies (n) and percentages (%) were used. When comparing patients' cohorts, we used Student's t-test to compare means and Pearson's chi-square test was used when comparing categorical variables.



Statistical significance was defined as p -value < 0.05 . All statistical analyses were performed using Excel software.

The institutional review board of Cleveland Clinic Abu Dhabi approved the study.

Results

Total 5566 unique upper endoscopic examinations performed from May 2015 to Nov 2017 were included in the study. The procedures were performed by 17 endoscopists. Established diagnosis and/or suspicion of gastroesophageal reflux disease were the primary indication for upper endoscopic examination in 616 patients whereas dysphagia was the indication in 354 patients.

SR was detected in a total of 33 patients. The prevalence of SR was 0.6%, 5.4% and 9.3% among all patients undergoing upper endoscopic examination, patients with gastroesophageal reflux disease and patients with dysphagia respectively. The mean age of patients with SR was 51.4 ± 17.8 years. SR was found more frequently in males than females (57.6% vs. 42.4%, $P = 0.22$).

Among all 33 patients who were found to have SR, 17 (51.1%) had dysphagia. Twenty-seven patients were found to have a hiatal hernia accounting for 87.9% of patients with SR. Only three patients with SR (9.1%) were diagnosed with eosinophilic esophagitis.

Discussion

SR is infrequently encountered during an upper endoscopic examination. The prevalence of SR among patients undergoing an endoscopic examination is poorly reported. Most of the studies that addressed the prevalence of SR in patients undergoing upper endoscopy are from the Western world. In a study from Germany, the prevalence of SR was 3.3% among patients who underwent routine upper endoscopic examination. (11) In an American retrospective study the prevalence of SR was 13% among patients who underwent upper endoscopy for dysphagia evaluation. (12) Moreover, in radiology literature, the prevalence of SR is variable, ranging from 0.2% to 14% in the general population and 15% to 26% among patients presenting with dysphagia. (13)

The prevalence of SR in our cohort is less than reported in the Germany study (0.6% vs. 3.3%) possibly due to the different ethnic backgrounds of the studied populations and younger population of our cohort (51.4 ± 17.8 years vs. 66 ± 12.9 years). Prevalence of SR in patients with dysphagia in the current study is comparable to the American study (9.3% vs. 13%) (12)



Recent studies suggested a significant association between SR and eosinophilic esophagitis. (6,11) The prevalence of eosinophilic esophagitis among the pediatric population and young adults with SR is around. 40% (6,11). In the adult population, the association is weaker. One study found the prevalence of eosinophilic esophagitis among adult patients with SR to be 3% (11). Our study showed 9.1% of patients with SR had eosinophilic esophagitis, which is significantly higher than what was reported in the previous study. One explanation for the higher prevalence of eosinophilic esophagitis in the current study's cohort could be related to the different ethnic backgrounds of the studied population and the younger age of our cohort (51.4 ± 17.8 vs. 57.1 ± 14.6 years). Different studies showed variation in the prevalence of eosinophilic esophagitis among different ethnicities and age groups (14-16).

The study has a few limitations. It is retrospective in nature, and therefore it may underestimate the prevalence of SR. Another limitation is the fact that the data reflect the experience of a single center. Furthermore, the study included patients presented for upper endoscopic examination for a variety of indications. Therefore, the study is not designed to identify patients with SR who are entirely asymptomatic.

In conclusion, the prevalence of SR among patients undergoing an upper endoscopic examination is variable based on the studied cohort of patients and ranges from 0.6% among all upper endoscopies for various indications to 9.3% among patients with dysphagia. Patients with SR are significantly older than patients with GERD or dysphagia without SR. The presence of SR may represent a sign of chronicity of GERD.

Authors Contributions

Dr. Alkhatib collected the data, analyzed the data and wrote the article.

Dr AbdulManan Khaskheli

Helped in writing the article.

Dr. Amer Alkhatib is the article guarantor.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Cleveland Clinic Abu Dhabi

Conflict of Interest: The authors declared no conflict of interest.

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