Introduction

Pharyngoesophageal diverticuli are relatively rare diseases [1-3]: the Zenker's diverticulum is an outpouching from the muscular gap in the posterior portion above the cricopharyngeus muscle with an estimated incidence of less than 0.5% and the Killian-Jamieson diverticulum is an outpouching from a muscular gap in the anterolateral wall of the proximal cervical esophagus just below the cricopharyngeus muscle and superolateral to the longitudinal muscle of the esophagus with an incidence ratio of 1:4 as compared to Zenker's. Although simultaneously occurring Zenker's and Killian-Jamieson diverticula in one patient was reported [4], we showed a direct evidence of Killian-Jamieson diverticulum lined with two different epithelial cells in a Korean male cadaver.

Case Report

During a routine educational dissection at Jeju National University Medical School in 2017, we found a well-defined lateral diverticulum just inferior to the transverse fibers of the cricopharyngeus muscle in a Korean male cadaver. It had a dimension of 1.8×1.4×1.0 cm with two types of epithelial cells, stratified squamous and simple cuboidal to low-columnar epithelium, and attenuated and haphazardly arranged muscle fibers. No epithelial dysplasia or malignant transformation was identified except ulcerative changes. Although Killian-Jamieson diverticulum is a very rare disease, clinicopathological aspects should be considered.

Key words: Killian-Jamieson triangle, Diverticulum, Epithelium, Cadaver

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columnar epithelium (Fig. 1E). Multiple foci of superficial ulceration were observed. The muscular fiber was attenuated and haphazardly arranged. No epithelial dysplasia or malignant transformation was identified.

Discussion

Killian-Jamieson diverticulum is a thin-walled diverticulum, mean diameter 1.5 cm (range, 0.5–10 cm), which is usually considered as a false diverticulum without a muscular layer [3, 5]. In this report, a typical Killian-Jamieson diverticulum was observed between the fibers of the cricopharyngeus muscle superiorly and longitudinal muscle of the esophagus inferiorly (so called Killian-Jamieson area [1]) with a diameter of 1.8×1.4×1.0 cm and haphazardly arranged and attenuated muscle fibers. Our case, however, had different property on the epithelial lining, stratified squamous epithelium and cuboidal to low-columnar epithelium, which has never been reported to the best of our knowledge.

There might be a possibility of the unrecognized or erroneously classified Killian-Jamieson diverticulum as Zenker’s, because the majority of articles about hypopharyngeal diverticula have concentrated on Zenker’s diverticulum. The lateral Killian-Jamieson diverticulum, however, might be relatively common, with a range of 35% [6] up to 44% [7] of hypopharyngeal diverticula. The incidence of the Killian-Jamieson diverticulum was reported 1.87% (16 of 854) [7] to 3.4% (17 of 500) [8] from dysphagia patients, which is a very similar incidence of Zenker’s (2.34%, 20 of 854) [7].

Although the incidence of an occult malignancy (squamous cell carcinoma) in the wall of a long-standing Zenker’s diverticulum has been reported to be 0.4% [9], the incidence of malignant transformation on Killian-Jamieson diverticulum has never been reported. Zenker’s and Killian-Jamieson diverticula have similar histopathologic characteristics: therefore they might share common risk factors for malignancy, such as larger diverticula of long duration [9]. In addition, the occurrence of metaplasia to simple cuboidal to low columnar epithelium suggests that there might be a possibility of persistent stimulations developing into a dysplastic or malignant transformation. In this case, we carefully excluded the possibility of adenocarcinoma according to the literature that columnar lining esophagus without intestinal metaplasia is less associated with adenocarcinoma [10].

Taken together, awareness of the fact that Killian-Jamieson diverticula can be misdiagnosed as thyroid nodules [5] is important to avoid unnecessary interventions. The differentiation between Zenker’s and Killian-Jamieson diverticula is
also important, as surgical management differs [4]. In addition, physicians should aware the possibility of carcinogenesis in the Killian-Jamieson diverticulum, although no epithelial dysplasia or malignant transformation was identified in this direct evidence.

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