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Case Report

Oesophageal Leukoplakia: A Rare Precancerous Condition

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Abstract

We report a case of a 62-year-old female with a history of alcohol overuse and reflux oesophagitis, who had presented with a acute drop in haemoglobin. Suspecting an upper GI bleed, an urgent oesophago-gastro-duodenoscopy (OGD) was performed, which revealed a normal examination aside from a patch of whitish, scally plaque in the lower oesophagus, later confirmed by biopsy to be oesophageal Leukoplakia with hyperkeratosis, lacking dysplasia. No oral or cutaneous lesions were identified. The patient received counseling on lifestyle modifications to mitigate risk factors. Oesophageal Leukoplakia (OL) is an uncommon benign condition, with potential malignant progression, of the oesophagus, marked by white mucosal plaques, observed during endoscopy. While Leukoplakia is more frequently seen in the oral cavity, its oesophageal presentation is rare, leading to potential diagnostic challenges. The precise aetiology of OL remains unclear, though risk factors include chronic mucosal irritation from smoking, excessive alcohol intake, and gastroesophageal reflux disease (GERD). Management primarily focuses on modifying lifestyle factors that contribute to mucosal irritation, underscoring the importance of addressing modifiable risk factors in preventing lesion progression. Although there are no established surveillance guidelines for endoscopic follow-up in cases of oesophageal leukoplakia, individualized risk stratification is essential. Endoscopic resection either mucosal resection or sub mucosal dissection should be reserved for lesions demonstrating dysplasia.

Keywords: *Leukoplakia, Oesophageus, Precancerous, Endoscopic Mucosal resection EMR , Endoscopic Submucosal Dissections ESD.*

Introduction

Leukoplakia refers to a white patch or plaque on mucous membranes that cannot be easily wiped away and cannot be classified as any other clinical disease. Esophageal epidermoid metaplasia, also known as esophageal leukoplakia, is a rare precancerous lesion that histologically resembles skin epidermis [1]. Although often found incidentally, it can occasionally present with symptoms such as dysphagia or a sensation of a lump (globus sensation). This condition typically affects middle-aged to elderly individuals, with a slight female predominance and is often associated with acid reflux, smoking and alcohol consumption. Histologically, it is characterized by esophageal squamous epithelium with a prominent granular layer and orthokeratosis or hyperorthokeratosis, with a potential link to esophageal squamous cell carcinoma and dysplasia. Diagnosis is confirmed via histologic findings from an esophageal biopsy, and treatment usually involves regular follow-up, with further intervention if squamous cell carcinoma develops [2].

Case Presentation

We report a case of a 62-year-old male with a history of alcohol overuse and reflux oesophagitis, who had presented with an acute drop in haemoglobin. Suspecting an upper GI bleed, an urgent oesophago-gastro-duodenoscopy (OGD) was performed, which revealed a normal examination aside from a patch of whitish, scally plaque in the lower oesophagus, later confirmed by biopsy to be oesophageal Leukoplakia with hyperkeratosis, lacking dysplasia. No oral or cutaneous lesions were identified. The patient received counselling on lifestyle modifications to mitigate risk factors. (Figure 1)

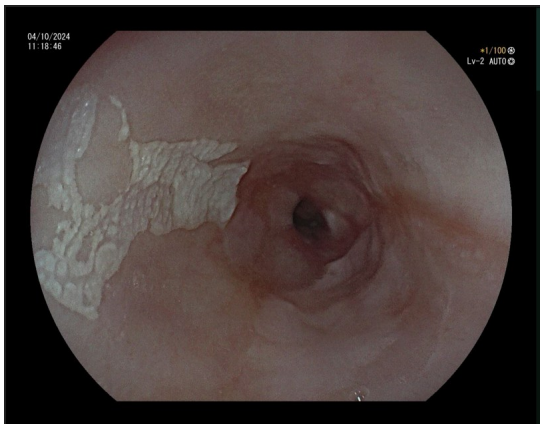

Figure 1. *Endoscopic image showing Oesophageal whitish plaque, "Leukoplakia"*

Discussion

Oesophageal Leukoplakia is a rare condition that shows a slight female predominance, unlike oral Leukoplakia, which is more common and typically has a higher prevalence in males. In one series, only six cases of oesophageal Leukoplakia were identified among 1,000 autopsy specimens, while another study reported just two cases in 1,048 consecutive biopsies [3]. Taggart et al. suggested that oesophageal Leukoplakia shares similar risk factors with oral Leukoplakia, including alcohol use and tobacco exposure, though no association was found with HPV as a risk factor for oesophageal Leukoplakia. While the exact cause remains unknown, acid reflux is considered the most common contributing factor. During endoscopy, oesophageal Leukoplakia typically appears as a superficially elevated white or scaly plaque above the squamocolumnar junction. Mucosal plaques in the oesophagus are relatively common and are often due to glycogenic acanthosis, which consists of hyperplastic squamous epithelium with intracellular glycogen deposits and is characterized by squamous epithelium with a prominent granular cell layer and a hyperorthokeratotic layer, resembling the epidermis. There are case reports documenting clinical oesophageal Leukoplakia with histological hyperkeratosis in conjunction with oesophageal mitotic lesions . While the malignant potential of oesophageal Leukoplakia is unknown, given the strong association between this condition and squamous dysplasia, it is recommended for patients with oesophageal Leukoplakia to undergo close monitoring with treatment by endoscopic resection or ablation [4].

Comparison with other studies

In line with other reported cases, our case involves a male patient with a history of esophagitis and alcohol use who was incidentally found to have whitish lesions in the lower third of the oesophagus, managed with lifestyle modifications. However, unlike other cases which has more of female preponderance, he did not experience , dysphagia or weight loss [5,6].

Additionally, one case report describes a patient with achalasia who underwent multiple Botox injections and had regular follow-ups for Barrett's oesophagus until she was lost to follow-up. Upon re-presentation, she had experienced weight loss and worsening acid reflux, with an OGD revealing a 20 mm Leukoplakia lesion in the middle third of the oesophagus. This case reinforces the likelihood that acid regurgitation is a primary cause of this condition, which may also be relevant to our case [7].

Another possible cause could be prolonged steroid use, which may lead to Leukoplakia involving the entire oesophagus rather than localized areas, as typically observed in another case [8].

Conclusion

Oesophageal Leukoplakia is a rare condition associated with an incidence of adjacent squamous dysplasia and squamous cell carcinoma, suggesting that oesophageal epidermoid metaplasia is a preneoplastic lesion. Despite its uncertain origin and unknown aetiology, the strong link between oesophageal epidermoid metaplasia, squamous dysplasia, and carcinoma underscores the importance of accurate recognition of this condition. Follow-up should be comprehensive, focusing not only on the endoscopic areas of Leukoplakia but also on the surrounding background mucosa [9]. Although there are no established surveillance guidelines for endoscopic follow-up in cases of oesophageal leukoplakia, individualized risk stratification is essential. Endoscopic resection either mucosal resection or sub mucosal dissection should be reserved for lesions demonstrating dysplasia.

Conflicts of Interest

To the author's knowledge there is no conflict of interest, financial, or other conflicts involved.

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