

Diverticular Pouch of the Buccal Mucosa: A Rare Case Report

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Summary: Diverticular pouch in the oral cavity is a rare disease, and its etiology is unclear. The authors present a rare case of diverticular pouch in the buccal mucosa. A 79-year-old man visited our hospital with a chief complaint of food impaction in the right buccal mucosa. Intraoral examination revealed a pouch just inferior to the parotid papilla. Histopathological examination after excisional biopsy showed that the epithelial cells lining the pouch were continuous with the mucous membrane and a diagnosis was made of diverticular pouch of the buccal mucosa. Twenty-five months after the patient's initial visit no recurrence has been noted. Further clinico-pathological studies are required to understand diverticular disease in the buccal mucosa. This case might help dentists to become more aware of these lesions and collect data for further investigations.

Key words diverticulum, buccal mucosa, oral cavity, oral disease, pathology

INTRODUCTION

Diverticular disease is one of the most common pathological conditions that can be detected by a colonoscopy. It occurs in up to two-thirds of elderly people over 80 years, especially in the colon, and the majority of people with diverticula are asymptomatic [1]. A diverticulum consists of a pouch of the digestive tract mucosa, which penetrates the muscular layer because of a partial defect and hypoplasia of the digestive tract muscle [2]. Diverticular pouch in the oral cavity has been rarely reported and limited information is available [2-14]. Herein, we present a rare case of diverticular pouch of the right buccal mucosa.

CASE REPORT

A 79-year-old man was referred to our hospital with a chief complaint of food impaction in the buccal mucosa. The patient did not perceive food impaction until it was pointed out by his family dentist. There

was no history of trauma or previous surgery to that region. A pouch was located inferior to the parotid papilla with food debris on his right buccal mucosa (Figure 1). The diameter and depth of the pouch were 5 mm and 7 mm, respectively. There was no surrounding inflammation and palpation of induration. Salivary secretion from Stensen's duct was normal. Sialography revealed no connection of the right parotid gland with the pouch (Figure 2). Excisional biopsy was performed under local anesthesia. Histopathological examination of the excised specimen showed that the pouch was lined by non-keratinized squamous epithelium with inflammatory cell infiltration (Figure 3). The epithelial cells lining the pouch were continuous with the buccal mucosa and the muscle fibers were observed within the lesion. Based on these findings, the lesion was diagnosed as a diverticular pouch of the buccal mucosa. No recurrence has been identified at twenty-five months follow-up.

DISCUSSION

Diverticular disease mainly arises in the distal colon, especially the sigmoid colon. In the colon it usually occurs in parallel rows between the teniae coli due to fragility in the muscular wall at sites of penetration of the vasa recta supplying the mucosa [1]. In most cases the patients are asymptomatic, and prevalence of the disease increases with age [1]. Meanwhile, diverticular disease in the oral cavity is rarely reported. To our knowledge, there are only fifteen reported cases including the present case (Table 1), and all of the le-

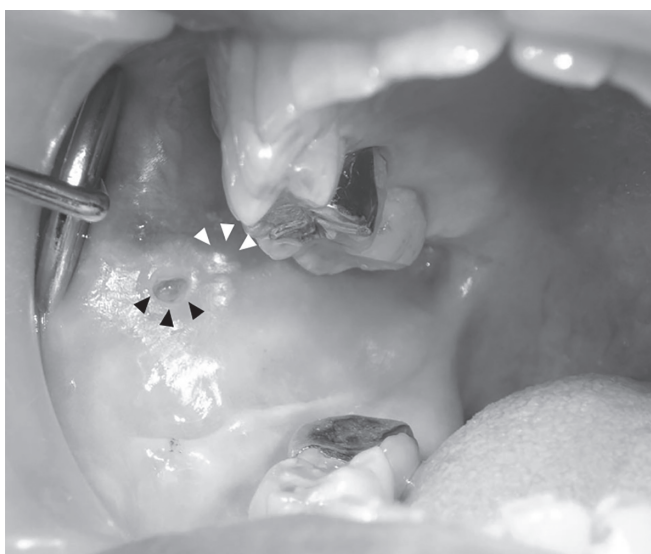


Fig. 1. Intraoral view of diverticular pouch on the right buccal region (black arrowheads). White arrowheads show the parotid papillae.

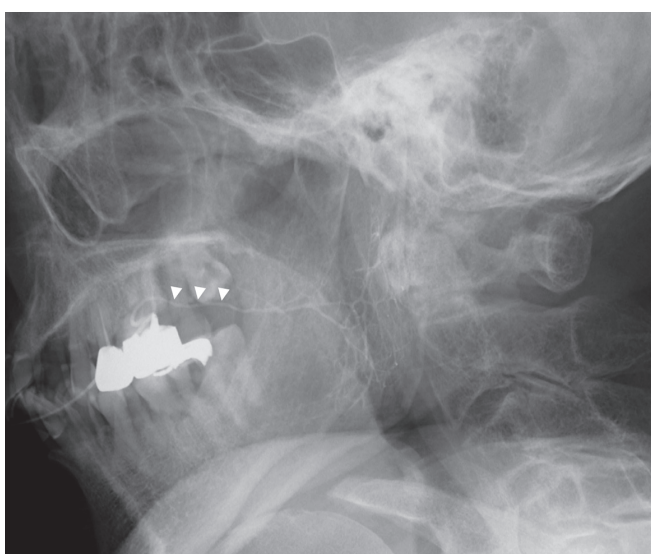


Fig. 2. Lateral sialogram reveals no connection between Stensen's duct (white arrowheads) and the pouch of the buccal mucosa.

sions were located in the buccal mucosa [2-14]. Yamamoto et al. [2] have termed it the diverticulum-like lesion (non-diverticular disease) due to the difference of the surrounding structures from the diverticular disease in the colon, e.g., existence of the cheek skin deep to the mucosa and existence of striated muscle. Of these 15 cases, five have been reported within the last three years. This might indicate there are more potential patients who are not reported or referred to hospital for treatment.

Etiology of this lesion is still unclear due to the small number of reported cases. Bailey [3] reported the first case of the diverticular disease found in the oral cavity. The lesion was quite large as the patient had neglected it for approximately 30 years. Bailey presumed that the salivary tissue beneath the buccinator muscle became necrotic by the pressure of the flange of the lower denture, and then the normal buccal mucosa invaginated to form a pouch. Yu [4] previously mentioned that the diverticula of the buccal mucosa may be idiopathic developmental defects due to invagination of the primary epithelial band or developmental disturbance of an accessory parotid primordial invagination. A few authors hypothesized that it may result from a partial defect or dysplasia of the buccinator muscle [2,5,10]. Rowson [7] stated that the atrophied mucosa and muscles may be pressed by long-term food impaction and result in a pouch.

Diverticular disease in the colon requires no treatment or follow-up if it is asymptomatic [1]. However,

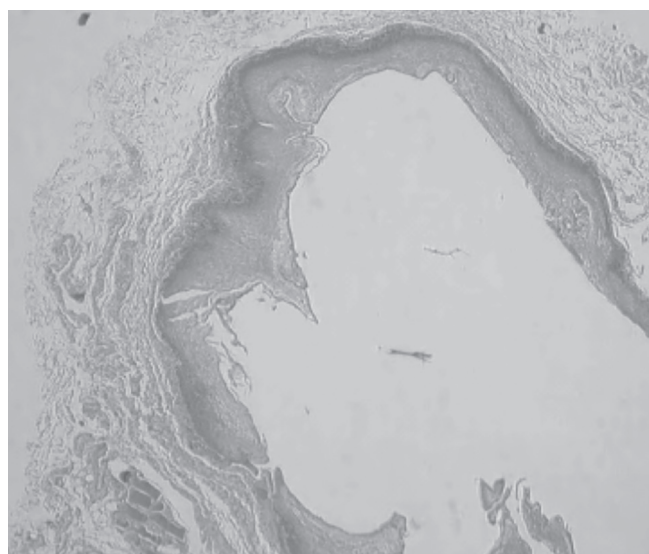


Fig. 3. Histopathologic specimens showed a pouchy appearance. The pouch was lined by the normal buccal epithelium with inflammatory cell infiltration (Hematoxylin and Eosin stain, 40 × magnification).

TABLE 1.
Reported cases of the diverticular pouch of the buccal mucosa

Author	year	Age	Gender	Chief complaint	Location	Diameter × depth (mm)	Treatment
Bailey ³	1982	86	F	neck swelling	right	30 × 100	excision
Yamamoto et al. ²	1989	46	M	food impaction	right	21 × 13	excision
Yu ⁴	1989	80	M	symptomless	bilateral	10 × 10 10 × 6	follow up
Takeda ⁵	1992	63	M	gum bleeding, bad breath	right	15 × 11	local irrigation
Rowson ^{6,7}	1993	89	F	symptomless	right	N.D.	follow up
Rees ⁸	1996	68	M	symptomless	left	5 ~ 7 × N.D.	follow up
Kubo et al. ⁹	2003	85	M	food impaction	left	7 × 7	excision
		52	M	symptomless	right	3 × 7	excision
Terada et al. ¹⁰	2004	80	M	symptomless	right	12 × 5	follow up
		42	M	symptomless	right	3 × 8	follow up
Ohnuki et al. ¹¹	2016	60	M	food impaction	right	5 × 10 3 × 5	excision
Suka et al. ¹²	2017	72	M	food impaction	left	5 × 10	excision
Miyazaki et al. ¹³	2018	66	M	food impaction	left	13 × 8	excision
Kadoya et al. ¹⁴	2018	79	F	bad breath, food impaction	right	10 × 10	excision
Present case	2018	79	M	food impaction	right	5 × 7	excision

in the oral cavity, if there is a complaint such as food impaction, resection can be chosen. More than half of the reported cases underwent resection of the lesion. In the present case, surgical resection was performed because the patient complained of food impaction caused by the lesion. Histopathological findings revealed inflammatory cell infiltration just below the epithelium, which suggested that poor oral hygiene due to food impaction might induce chronic inflammation.

CONCLUSION

We describe here a rare case of the diverticular pouch in the buccal mucosa. Further clinico-pathological studies are required to understand diverticular disease in the buccal mucosa. We hope this report will help dentists to become more aware of such lesions and collect data for further investigations.

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