Vascular Malformation Masquerading as Sialolithiasis and Parotid Obstruction: A Case Report and Review of the Literature

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ABSTRACT

Introduction: Salivary gland obstruction caused by sialolithiasis or duct structure is one of the more common causes of non-vascular unilateral facial swelling. Vascular malformations of the head and neck are less common but may present with intermittent facial swelling. Phleboliths can be found in various malformations of nearly all adult patients and are a key diagnostic imaging finding. The clinical and radiographic appearance of phleboliths may resemble sialoliths, making the diagnosis more difficult. We present a case of intermittent unilateral facial swelling caused by a venous malformation involving the buccal space where the phleboliths were initially misdiagnosed as parotid sialolithiasis.

Study Design: Illustrative case report and literature review.

Methods: A 48-year-old woman presented to our office with 9 months of intermittent left facial swelling. On bimanual examination, multiple small firm nodules were palpated in the left cheek. A computed tomography (CT) scan demonstrated multiple oval-shaped radiopaque lesions in the buccal space, initially interpreted as sialoliths. Magnetic resonance imaging (MRI) was performed, confirming the diagnosis of venous malformation with phleboliths. Sialendoscopy revealed a normal appearing parotid duct system without stricture or sialoliths. Ultrasound revealed a buccal space vascular lesion surrounding the distal Stensen’s duct.

Results: Currently, the patient is being observed and is clinically stable. Illustrative CT scan and MRI images are presented. A literature review shows that vascular malformations mimicking salivary gland obstruction are rare.

Conclusions: While unilateral facial swelling is commonly due to parotid sialoliths or parotid duct stones, other less common causes including vascular malformations should be considered. Phleboliths and sialoliths may appear similar on non-contrast CT scan. Ultrasound, MRI, and sialendoscopy may be helpful in determining the etiology.

INTRODUCTION

- Obstructive salivary gland disease is one of the most common problems affecting the salivary glands and often presents with unilateral, episodic facial swelling. While more common in the submandibular glands, 20% of sialoliths occur in the parotid gland, and some patients with sialolithiasis present with more than one stone.1 Other etiologies for obstructive salivary gland disease include duct structure and mucous plugs.

- Vascular malformations with phleboliths of the head and neck are less common causes of intermittent facial swelling. Phleboliths may resemble sialoliths both clinically and radiographically. We present a case in which the patient presented with unilateral facial swelling and palpable firm nodules in the buccal space. The imaging findings characteristic of venous malformations and the relevant literature on this topic are discussed.

RESULTS

Clinical Outcome of Case

Given the low severity of her symptoms, close observation was recommended. On follow-up, the patient’s symptoms remain stable one year after diagnosis.

Figure 1: Axial, non-contrast CT soft tissue window (A) and bone window (B) show multiple well-defined oval calcifications in the left buccal space (yellow arrow). Note a subtle lamellated appearance of the phleboliths. These lie immediately anterior to the course of the left Stensen’s duct (red arrows, A).

Figure 2: 3-D reconstructions of non-contrast CT from figure 1. Four distinct ovoid, calcified lesions are readily apparent in the left buccal space (arrows).

Figure 3: Gadolinium-enhanced axial T1 (A) and T2 weighted fat-sat (B) MRI images. A lobulated T2 hyperintense and enhancing lesion (yellow arrow) with adjacent signal voids (red arrow) is diagnostic for venous malformations. The signal voids correspond to the densely calcified phleboliths.

REFERENCES