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CLINICAL VIGNETTE

Sublingual Swelling: A Case of Sialadenitis

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Case

A 25-year-old healthy male presented to the ED for Right submandibular and sublingual swelling for 2 weeks. There was no associated trauma and had been increasing in size with worsening constant pain. He was free of dyspnea, fevers, chills, night sweats, weight loss, drainage, and no known TB or HIV exposures. His family history was negative for hematologic disease or lymphoma. There was no other swelling elsewhere. He was afebrile, blood pressure 112/67, HR 71, respiratory rate 12 with oxygen saturation of 99% on room air. He was alert in no distress. His facial exam was notable for right submandibular fullness and swelling with some tenderness to palpation. His oral mucosa was moist. The tongue was midline. There was a small mass/swelling to right sublingual region. Scant purulent drainage was noted. There was no oropharyngeal edema and airway was patent. He had good dentition with no obvious abscesses or broken teeth. He had no stridor. Labs included normal WBC, BMP. He underwent CT imaging which demonstrated a 5 mm calcification in the anterior right sublingual space with prominence of Wharton's duct. The right submandibular gland was slightly enlarged without periglandular fat stranding or inflammation. There was no abscess. Patient was discharged with a prescription for amoxicillin-clavulanate, recommendation to apply warm compresses and use sialagogues. Follow up with otolaryngology was arranged. Three days after ED visit, he was seen by ENT and dilation vs. sialodochoplasty/sialolithomy was planned. He was discharged on prednisone with plan to return in four days. At representation to otolaryngology patient arrived with a 5mm white calculus which he had extracted at home. Reexamination showed resolution of edema and Wharton's duct had clear saliva.

Discussion

Sialolithiasis is the formation of a calculus or calculi within the salivary glands. Sialadenitis is inflammation of the salivary glands. Acute Sialadenitis is usually a bacterial or viral infection due to an obstructing calculus or hyposalivation.^{1,2} Obstructing sialadenitis accounts for 50% of benign salivary gland disorders.¹ There are three major salivary glands: the parotid, sublingual and submandibular glands. The parotid gland is the largest and drains via Stensen's duct opposite the second molar. The submandibular gland lies beneath the floor of the mouth and drains via Wharton's duct and opens near the lingual frenulum. Most salivary gland calculi occur in the submandibular gland (80-90%). This is thought to occur as

Wharton's duct does not pass through a muscle and is hence not subject to muscular massage. Also, submandibular saliva has higher viscosity due to higher content of calcium phosphate and calcium carbonate.^{1,3,4}

Sialadenitis is most commonly seen in the parotid gland. It can occur in patients in their 50s-60s, young individuals with anorexia, the chronically ill with xerostomia, diabetics, patients with renal dysfunction and autoimmune diseases. Anticholinergic medications are often involved.^{1,2}

The most common organism in bacterial sialadenitis is *Staphylococcus aureus* (50-90%). *Strep spp.*, *Hemophilus influenzae*, *Pseudomonas aeruginosa*, *Moraxella catarrhalis*, *Escherichia coli*, and anaerobic bacteria are also seen.¹⁻³ Viral organisms such as mumps and HIV can cause bilateral nonsuppurative salivary infections.³

Sialolithiasis frequently presents with unilateral swelling of the affected gland as well as pain with eating. Ten percent of submandibular calculi present with pain but no swelling and one third will present with swelling and no pain.⁵ In Sialadenitis the gland may be swollen, indurated, erythematous and tender. Purulent discharge from the affected duct may be present.^{1,2} There can be systemic manifestations including fever and chills.^{2,3}

Diagnosis is usually made clinically. Advanced imaging modalities such as ultrasound, CT, and MRI can be used to confirm the diagnosis. They can be helpful in defining the anatomy involved, size of calculus, and presence of an abscess.¹⁻³

Management includes treating the infection and addressing the underlying cause. Empiric antibiotic therapy is directed towards gram-positive and anaerobic organisms. Amoxicillin-clavulanate or clindamycin for 7-10 days are reasonable options.¹⁻³ Hydration and good oral hygiene should be encouraged. Sialagogues (lemon juice, lozenges, or hard candies,) warm compresses and gland massage may also facilitate stone passage.¹⁻³ If an abscess is identified this requires drainage. Occasionally, surgical intervention is required.¹⁻³

Figures



Figure 1: Sublingual Swelling



Figure 2: A 5 mm calcification in the anterior right sublingual space

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