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Visual Diagnosis in Emergency Medicine

ADULT WOMAN WITH SUBMANDIBULAR NECK SWELLING

Hayley K. Harvey, MD,* Jacob D. Isserman, MD,*† and Jonathan E. Davis, MD*†

*Department of Emergency Medicine, MedStar Health, Washington, District of Columbia and †Department of Emergency Medicine, Georgetown University, Washington, District of Columbia

Corresponding Address: Jonathan E. Davis, MD, Department of Emergency Medicine, Georgetown University Hospital, 3800 Reservoir Road NW, Ground Floor, CCC Building, Washington, DC 20007

CASE REPORT

A 67-year-old woman presented to the emergency department for evaluation of rapid onset, right-sided neck pain and swelling. Her medical history was significant for end-stage renal disease on hemodialysis and a recent admission for hypercalcemia caused by hyperparathyroidism. On arrival to the emergency department, her vital signs were notable for a heart rate of 137 beats/min and hypertension (202/119 mm Hg). There was no significant dyspnea reported and no observed increase in work of breathing. A neck examination revealed right-sided submental and anterior cervical swelling along with focal tenderness to palpation without overlying erythema or warmth (Figure 1). An intraoral examination revealed focal swelling of the right lateral tongue. The patient tolerated secretions without difficulty and demonstrated normal phonation. Given the concern for soft tissue infection, a computed tomography scan of the neck was obtained (Figures 2 and 3).

Imaging revealed right submandibular sialadenitis with an associated chain of multiple punctate calcifications within the right submandibular duct that was consistent with sialolithiasis. Initial treatment with focal massage and sialagogues, including lemon wedges and sour candy, failed to yield improvement. Given the concern for infection, the patient was admitted to the otolaryngology service for airway observation and received broad-spectrum intravenous antimicrobials, corticosteroids, and continued supportive care with warm compresses, intermittent massage, and sialagogues. Within 48 h the swelling improved, and the patient was discharged home to complete a 7-day course of oral antibiotics.

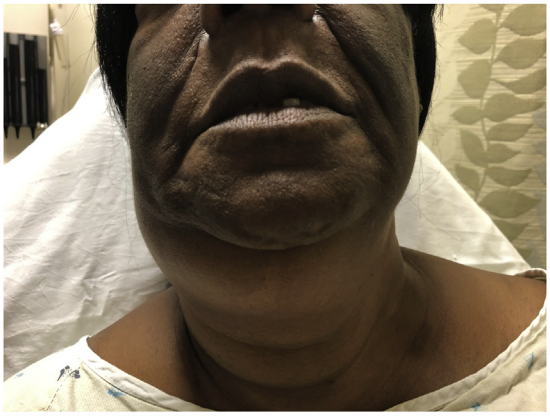

Figure 1. Clinical photograph of the anterior aspect of the neck revealing right-sided submandibular fullness that was particularly noticeable when compared with the contralateral side.

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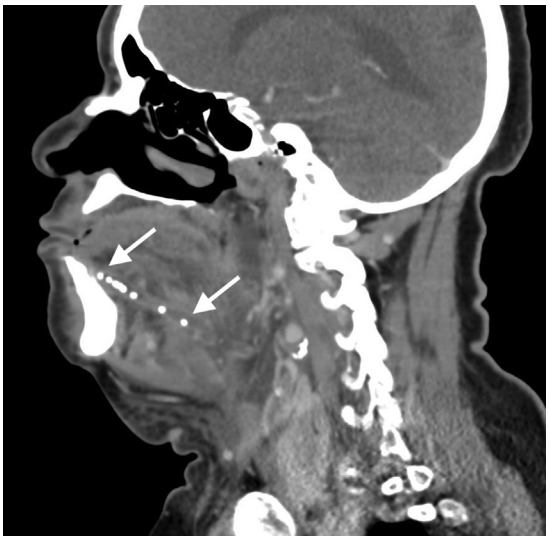

Figure 2. Computed tomography scan (sagittal plane) of the head and neck showing a chain of sialoliths in the submandibular duct (arrows emphasize the proximal and distal stones in the chain).

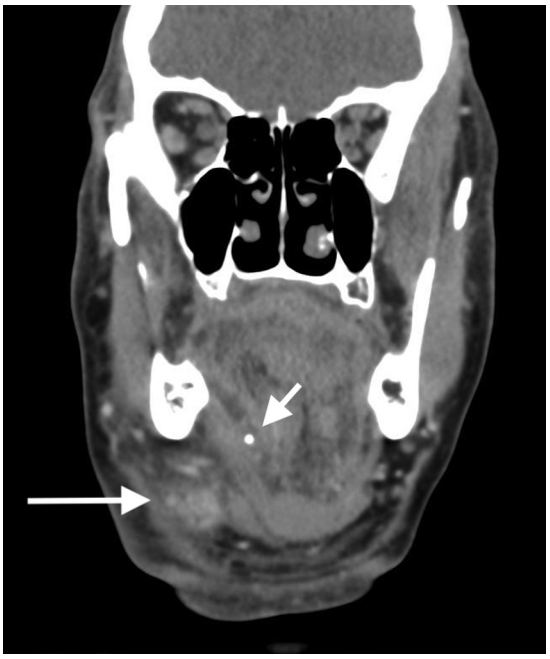

Figure 3. Computed tomography scan (coronal plane) of the head and neck showing a sialolith (small arrow) and submandibular fullness with inflammatory changes (large arrow).

DISCUSSION

The pathogenesis of sialolithiasis is unclear, but it is thought to be multifactorial and linked to conditions including intravascular volume depletion, decreased saliva production, medication use, or hyperparathyroidism (1–3). Salivary function may be altered in patients with chronic kidney disease who are undergoing hemodialysis treatment (4). The submandibular gland and duct system are most commonly involved (5). Obstructing salivary stones may lead to swelling and pain of the affected gland (3). The diagnosis of sialadenitis can be made on clinical grounds or with the assistance of ultrasound or computed tomography imaging. Antibiotics may prevent abscess in patients with bacterial sialadenitis. Sialolithiasis increases the risk of bacterial infection owing to obstruction and stasis (6).

The initial treatment of sialadenitis is typically conservative, but endoscopic techniques may be used (7). Emergency clinicians should consider sialadenitis in the differential for patients presenting with anterior neck or oral swelling or pain.

REFERENCES

1. Lee LT, Wong YK. Pathogenesis and diverse histologic findings of sialolithiasis in minor salivary glands. J Oral Maxillofac Surg 2010;68(2):465–70.
2. Stack BC Jr, Norman JG. Sialolithiasis and primary hyperparathyroidism. ORL J Otorhinolaryngol Relat Spec 2008;70:331–4.
3. Marchal F, Kurt AM, Dulguerov P, et al. Retrograde theory in sialolithiasis formation. Arch Otolaryngol Head Neck Surg 2001;127:66–8.
4. Kaya M, Cermik TF, Ustun F, et al. Salivary function in patients with chronic renal failure undergoing hemodialysis. Ann Nucl Med 2002;16(2):117–20.
5. Sigismund PE, Zenk J, Koch M, et al. Nearly 3,000 salivary stones: some clinical and epidemiologic aspects. Laryngoscope 2015;125:1879–82.
6. Troeltzsch M, Pache C, Probst FA, Troeltzsch M, Ehrenfeld M, Otto S. Antibiotic concentrations in saliva: a systematic review of the literature, with clinical implications for the treatment of sialadenitis. J Oral Maxillofac Surg 2014;72(1):67–75.
7. Zenk J, Koch M, Klintworth N, et al. Sialendoscopy in the diagnosis and treatment of sialolithiasis: a study on more than 1000 patients. Otolaryngol Head Neck Surg 2012;147:858.