First-Ever Reported Case of Tophaceous Gout Presenting as a Head and Neck Abscess

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Introduction

- 54-year-old otherwise healthy female presented to the ED with three days of progressive left neck swelling.
- She endorsed left neck tenderness.
- She denied difficulty breathing, voice changes, sore throat, pain on swallowing, chest pain, shortness of breath, fevers, or chills.

Further History

- Notably, the patient underwent percutaneous biopsy of left clavicular mass two years prior without malignancy identified.
- She also had a retropharyngeal abscess one year prior drained through left transcervical approach at an outside institution.
- Wound cultures and gram stain during that surgery were negative for any microorganisms.
- The patient had cats and went camping with some frequency.

Examination & Labs

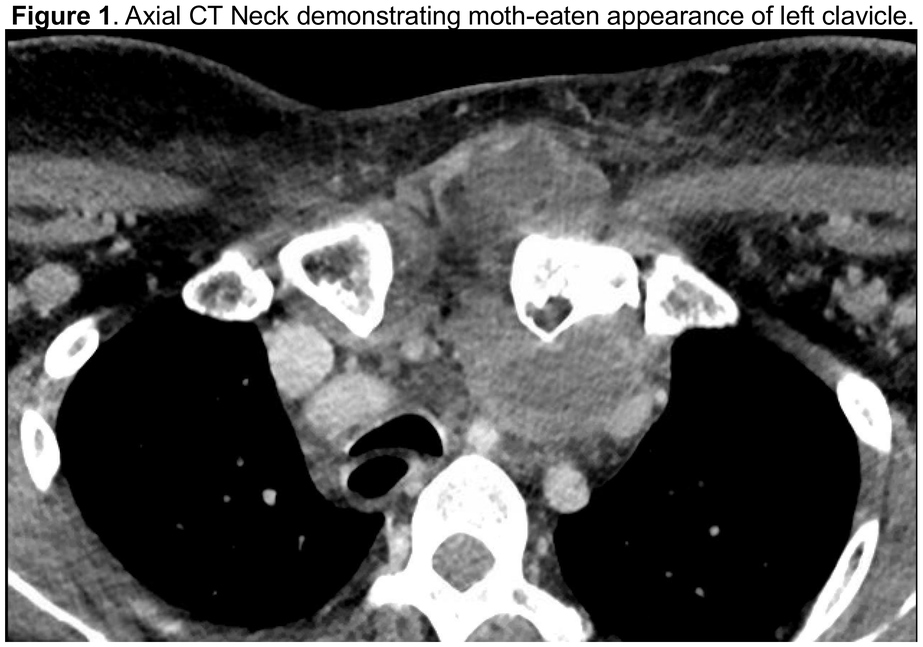
- On examination, vital signs were stable.
- Patient appeared non-toxic.
- Left neck demonstrated firm erythema extending from sternum to left ear.
- Labs were notable for leukocytosis to 11.6; C-reactive protein and erythrocyte sedimentation rate were elevated to 34.5 and 61, respectively.
- Broad-spectrum antibiotics were initiated for presumed infection
- Infectious Diseases was consulted.

Imaging

- Computed tomography (CT) scan of the neck with contrast was obtained.
- Demonstrated large multi-loculated abscess with peripheral enhancement and internal septations along the deep aspect of the left sternocleidomastoid (SCM) muscle measuring 17 cm in the superior to inferior direction.
- Inferiorly, the left internal jugular vein was severely attenuated by the mass.
- A second fluid collection was also present superficial to the left clavicle with unclear communication to the larger abscess.
- The clavicle had a moth-eaten appearance (Figure 1).
- Imaging was most suggestive of an infection. Thoracic surgery was consulted given clavicular involvement.

Results

Figure 1. Axial CT Neck demonstrating moth-eaten appearance of left clavicle.



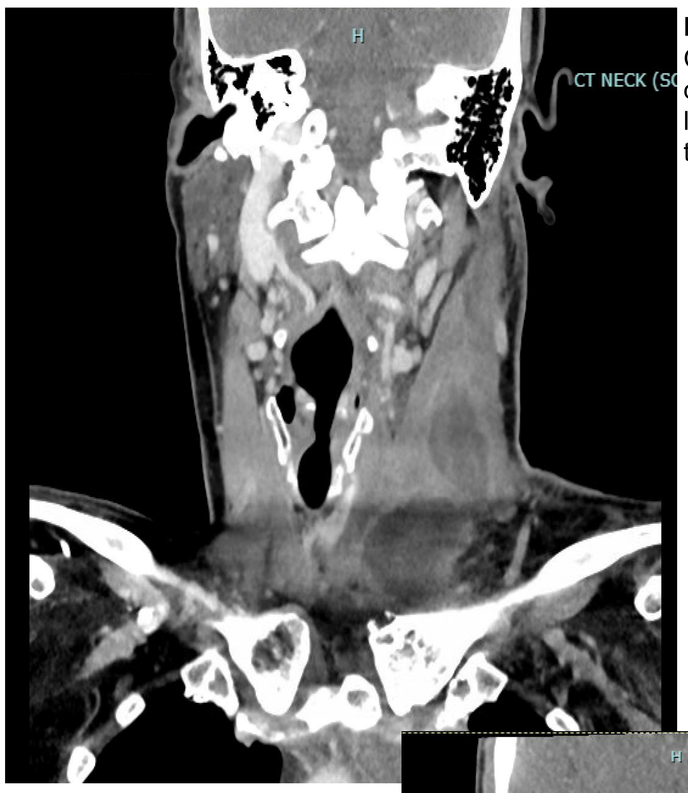


Figure 2. Coronal CT Neck demonstrating multi-loculated abscess in the left neck.

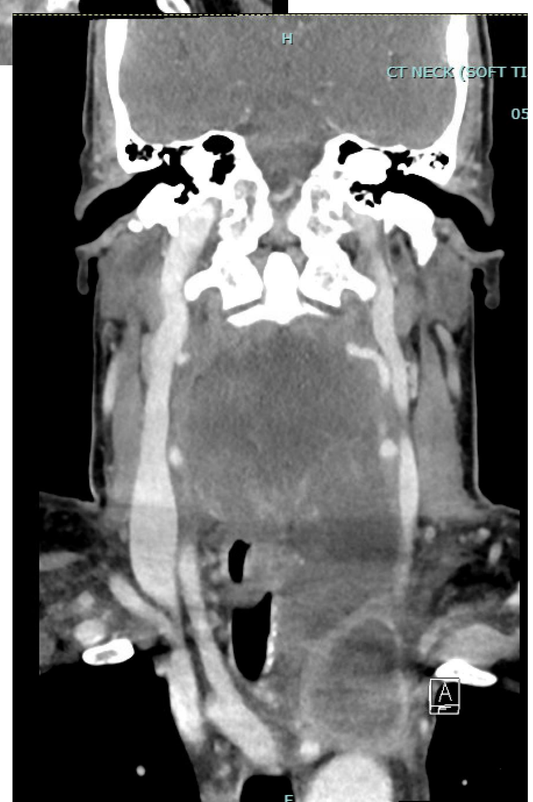


Figure 3. Coronal CT Neck from prior admission demonstrating multi-loculated retropharyngeal abscess in the left neck with soft tissue structure communicating with underlying sternoclavicular joint.

Operative Note

- The patient was taken to the operating room for incision and drainage of left neck abscesses.
- After skeletonizing the left SCM through prior incision, multiple sterile abscess pockets were encountered and explored with return of thick, odorless, creamy, yellow-tan fluid. The cavity was widely irrigated.
- During dissection, there was injury to the left internal jugular vein as it was adherent to the posterior abscess cavity; this was repaired with multiple sutures.
- Exposure was carried inferiorly to identify the sternoclavicular joint. An abnormal cystic structure was protruding from the left sternoclavicular joint, appearing to originate at the clavicular head.
- The thoracic team joined the case; the clavicular head was resected with a Gigli saw. The sternoclavicular joint was debrided until healthy manubrium was encountered.
- The wound was irrigated, and the neck was closed; chest incision was left open for wound vac drainage.
- Frozen section pathologic analysis of the joint demonstrated crystal deposition.
- The patient returned to the operating room on postoperative day 5 for repeat incision and drainage of a small residual cavity along the SCM and wound vac change.

Follow Up

- Rheumatology was consulted after the procedure.
- Final pathology demonstrated the negatively birefringent crystals typical of gout in a background of tophus involving the sternoclavicular joint.
- There was no concern for a lymphoproliferative process or neoplasia.
- The patient was placed on urate-lowering therapy and followed with uric acid levels and dual-energy CT, which assesses for urate deposition burden.
- On most recent follow up, seven months post-procedure, she had no further flare ups. Study was exempt from institutional review.

Discussion

- Gout, the most common form of inflammatory arthritis affecting over 55 million people worldwide,[1] results from high levels of uric acid in the blood, leading to formation of monosodium urate crystals. Gout can form tophi, classically accumulating around the first metatarsophalangeal joint.
- Though there have been three prior reports[2–4] of gout affecting the sternoclavicular joint, ours is the first case of gout presenting as a lateral neck abscess, and the first reporting retropharyngeal abscess as a byproduct of unrecognized gout.
- Head and neck manifestations of gout typically include intralaryngeal effects (e.g. cricoarytenoid joint) or tophaceous deposits in the external ear. There have been isolated reports of tophi in the oropharynx and nasal septum.[5]
- We report this case to raise awareness of unexpected otolaryngologic manifestations of rheumatologic disease in general, and to broaden the differential for neck abscesses, particularly in sterile abscesses without significant leukocytosis or involving a joint space.
- Additionally, sending tissue for pathology allowed determination of diagnosis and definitive treatment, as cultures typically reveal no organisms. Further studies are warranted to define treatment algorithms with respect to this rare manifestation of gout.

References

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