

## INTRODUCTION

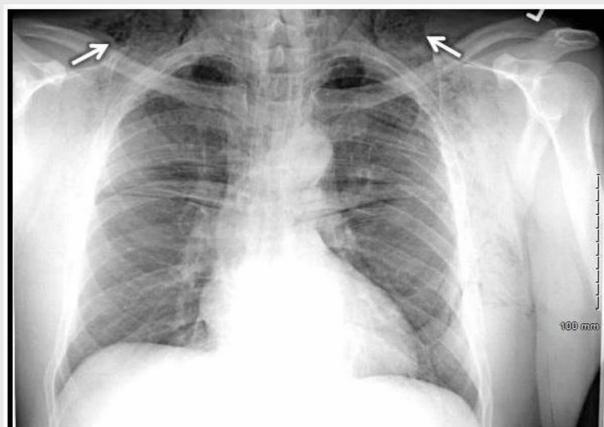
- A thorough history and physical exam is paramount to elucidate the etiology of suspected angioedema.



**Figure 1.** CT scan of the neck with paralaryngeal gas/air (arrow).



**Figure 2.** Facial and eyelid swelling (arrows). Verbal consent obtained for photo.



**Figure 3.** Chest radiograph with subcutaneous air (arrows).

## CASE PRESENTATION

### Hospitalization #1:

- A 53-year-old African-American male with hypertension (on enalapril) presents with 5 days of swelling of the face and neck.
- Swelling developed after 1 week of cough, chills, and sore throat secondary to an upper respiratory infection.
- CT scan of the neck reveals right preglottic, subglottic, and supraglottic edema.
- Two nasolaryngoscopies show right parapharyngeal and pyriform edema without other abnormalities.
- A repeat CT scan of the neck reveals paralaryngeal gas (Figure 1), thought to be due to multiple nasolaryngoscopies or an infectious process.
- Enalapril is discontinued and amlodipine is started for hypertension. Amoxicillin/clavulanate 875/125mg twice daily and prednisone 20mg daily, both orally, are initiated with slight improvement. He is discharged.

### Hospitalization #2:

- He presents 1 day after discharge with worsening neck and facial swelling, cough, hoarseness, and new right upper eyelid swelling. The allergy/immunology service is consulted for "angioedema."
- Physical examination reveals right-sided edema of the neck, face and upper eyelid with subcutaneous crepitus (Figure 2). He exhibits no rash. He is coughing, but respirations are non-labored.
- A chest radiograph shows bilateral subcutaneous emphysema with probable pneumomediastinum. (Figure 3).
- Nasolaryngoscopy reveals no definitive abnormalities, but a microperforation of the laryngopharynx is suspected.
- He improves with antitussives and weaning of previously initiated systemic corticosteroids. He is discharged.

## DISCUSSION

- Subcutaneous emphysema due to a microperforation of the laryngopharynx is an important, though rare, diagnostic consideration and can be difficult to differentiate from angioedema.<sup>1</sup>
- Pneumomediastinum may be spontaneous or secondary to procedures, trauma, or underlying pulmonary disease.<sup>2</sup>
- The initial angioedema was likely caused by enalapril, given the time course of the prior admission and absence of subcutaneous crepitus.
- A microperforation, secondary either to excessive coughing or trauma during nasolaryngoscopies, likely caused the subsequent, rapid swelling and subcutaneous emphysema.

## CONCLUSION

- Subcutaneous emphysema is an important differential diagnosis in the evaluation of angioedema.

## REFERENCES

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- Kouritas VK, Papagiannopoulos K, Lazaridis G, et al. Pneumomediastinum. J Thorac Dis. 2015; 7(Suppl 1): S44-S49.