IDCases 4 (2016) 32–33

Contents lists available at ScienceDirect

IDCases

journal homepage: www.elsevier.com/locate/idcr

Case Illustrated

Ludwig's angina complicated by fatal cervicofascial and mediastinal necrotizing fasciitis

Anthony Manasia [a], Nagendra Y. Madisi [b,*], Adel Bassily-Marcus [a], John Oropello [c], Roopa Kohli-Seth [c]

[a] Department of Surgery, Icahn School of Medicine at Mt Sinai Hospital, New York, NY, United States
[b] Icahn School of Medicine at Mt Sinai Hospital, New York, NY, United States
[c] Department of Surgery Icahn School of Medicine at Mt Sinai Hospital, New York, NY, United States

ARTICLE INFO

Article history:
Received 15 December 2015
Received in revised form 28 February 2016
Accepted 7 March 2016

A 54-year-old man, with a history of poorly controlled diabetes mellitus, presented to the emergency room with a three-day history of severe, progressive swelling of his neck associated with odynophagia.

Oral cavity examination was remarkable for trismus with mouth opening limited to two fingers, edematous floor of the mouth, drooling and a carious second lower molar tooth. Physical exam was consistent with bilateral swelling of the neck, severe tenderness and symmetric induration in the submandibular area consistent with Ludwig's angina. On admission, leukocyte count was 7300/μL increasing to 26,000. Neck CT displayed gas in the fascial planes and musculature consistent with necrotizing fasciitis descending into the mediastinum and anterior chest (Figs. 1 and 2). Blood cultures were negative and wound cultures were positive for an alpha-hemolytic streptococcus not further speciated and Actinomyces meyeri.

Broad-spectrum antimicrobials with Vancomycin and Imipenem/cilastatin were initiated; emergent surgical debridement and tracheostomy were performed (Fig. 3). During the hospital course he required multiple debridements and extraction of an infected second lower molar tooth. The clinical course was complicated by septic shock, acute respiratory distress syndrome and acute renal failure. Despite aggressive medical and surgical intervention, the patient expired from multisystem organ failure on day thirteen.

Ludwig's angina is an aggressive, potentially fulminant, deep neck infection often caused by dental infection/abscess from polymicrobial organisms [1]. It presents with fever, chills, mouth pain, drooling and dysphagia. Cervicofascial necrotizing fasciitis is rarely seen in patients with Ludwig's angina [2]. Clinical course and prognosis of patients with both conditions is determined by their immune status. Ludwig's angina superimposed by cervicofascial necrotizing fasciitis is a surgical emergency with a mortality rate of approximately >50%. The cornerstone of the treatment is securing the airway, providing efficient drainage, appropriate antimicrobials, and improving immunologic status [3].

Clinical presentation of Ludwig's angina can be subtle even in immunocompromised individuals with extensive underlying tissue destruction as seen in our case. It is important to maintain a high index of suspicion for necrotizing fasciitis in the setting of Ludwig's angina. Delay in the diagnosis and treatment is associated with a high mortality and morbidity [4].

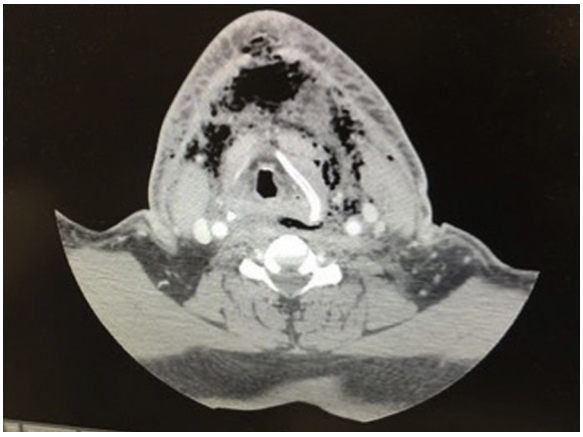

Fig. 1. CT showing presence of gas in the anterior cervical space.

* Corresponding author at: Icahn School of Medicine at Mt Sinai, Critical Care Medicine, One Gustave L Levy Place, New York, NY 10129, United States.
E-mail address: nmadisi@gmail.com (N.Y. Madisi).

http://dx.doi.org/10.1016/j.idcr.2016.03.001

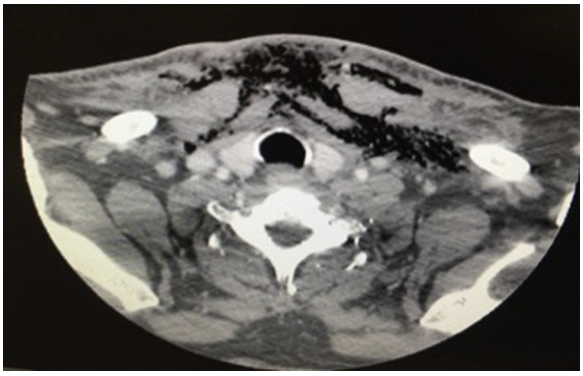

Fig. 2. CT showing air dissecting into the anterior mediastinum.

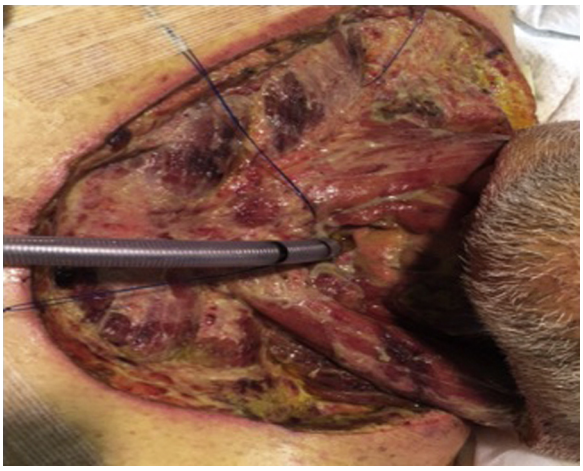

Fig. 3. Extensive debridement with exposed sternomastoids and tracheostomy in situ.

Ethical approval

Written informed consent was obtained from the next of kin for publication of this case report and accompanying images

References

[1] Diaz Manzano JA, Cegarra Navarro MF, Medina Banegas A, Lopez Meseguer E. Diagnostic and treatment of necrotizing cervical fascitis. Clinical course after a Ludwig angina. An Otorrinolaringol Ibero Am 2006;33(3):317–22.
[2] Chueng K, Clinkard DJ, Enepekides D, Peerbaye Y, Lin VY. An unusual presentation of ludwig's angina complicated by cervical necrotizing fasciitis: a case report and review of the literature. Case Rep Otolaryngol 2012;2012:931350.
[3] Quereshy FA, Baskin J, Barbu AM, Zechel MA. Report of a case of cervicothoracic necrotizing fasciitis along with a current review of reported cases. J Oral Maxillofac Surg 2009;67(2):419–23.
[4] Kavarodi AM. Necrotizing fasciitis in association with Ludwig's angina – a case report. Saudi Dent J 2011;23(3):157–60.