



Available online at
ScienceDirect
www.sciencedirect.com

Elsevier Masson France
EM|consulte
www.em-consulte.com/en



Letter to the Editor

Serious complication of postextubation laryngeal oedema treated by corticosteroids: Septic cricoid chondronecrosis



Complication grave d'un œdème laryngé post-intubation sous corticothérapie : la chondronecrose septique du cricoïde

We report the case of a 42-year-old woman brought to hospital by ambulance for management of coma following deliberate drug overdose with Lamictal® [lamotrigine] and requiring orotracheal intubation. The patient was extubated on day 2, but subsequently needed to be re-intubated due to deterioration of her neurological state. After a free interval of 21 days after extubation, she presented with progressive onset of dysphonia associated with laryngeal pain. Laryngoscopy revealed inflammatory granulomas opposite the posterior third of the vocal cords and arytenoid oedema. Oral corticosteroid therapy was initiated at a dosage of 40 mg daily. The patient consulted urgently on day 10 due to absence of improvement of the symptoms and the appearance of stridor and laryngeal dyspnoea due to tight subglottic stenosis requiring emergency tracheotomy. Corticosteroid therapy at a dosage of 80 mg daily was initiated at the same time. On day 6 after tracheotomy, the patient presented infection of the tracheotomy orifice. Post-contrast CT scan of the neck demonstrated the presence of circumferential laryngeal oedema complicated by tight stenosis of the three parts of the glottis associated with extensive suppurative necrosis of the cricoid and arytenoid cartilages and the presence of several gas bubbles in the body of the cartilage. An abscess of the right infrahyoid soft tissues of the neck was also observed.

Management consisted of surgical drainage of the prelaryngeal abscess (*Haemophilus parainfluenzae*), urgent initiation of parenteral antibiotics (Augmentin® [amoxicillin/clavulanic acid]) associated with discontinuation of corticosteroids (total duration of corticosteroid therapy: 16 days), hyperbaric oxygen therapy and insertion of a Montgomery laryngeal stent to prevent stenotic scarring (Figs. 1 and 2).

Cricoid chondronecrosis is a rare disease associated with high morbidity and even mortality in some cases, especially following delayed diagnosis resulting in irreversible lesions [1]. The two main pathophysiological mechanisms are vascular and mechanical, as the laryngeal endochondral blood supply is ensured by submucosal arterioles supplying the mucosa and the internal perichondrium [2]. The slightest impairment of this fragile blood supply can be responsible for chondronecrosis. Re-intubations or secondary tracheotomy are also known risk factors [3,4] for chondronecrosis. The functional prognosis depends on the extent of necrosis [4]: poor prognosis when necrosis involves a large part of the cartilages, good prognosis in the presence of only partial chondronecrosis.

In the case reported here, long-term corticosteroid therapy without antibiotics (for a total of 16 days, including 6 days at double doses) predisposed to extension of cartilage necrosis and especially

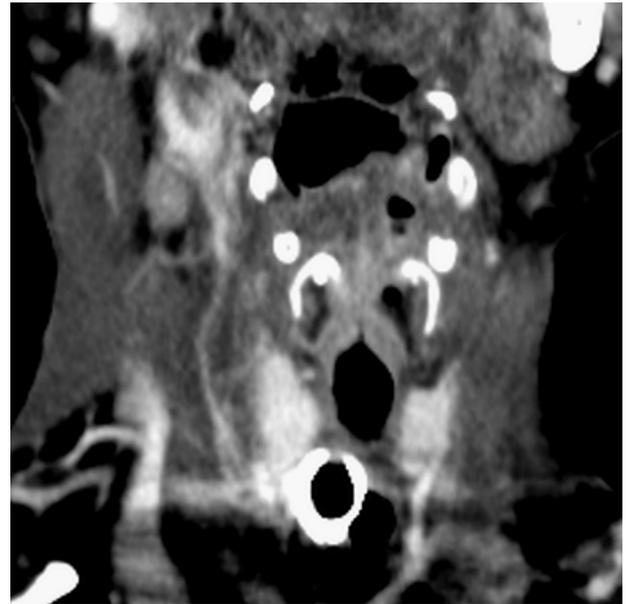


Fig. 1.

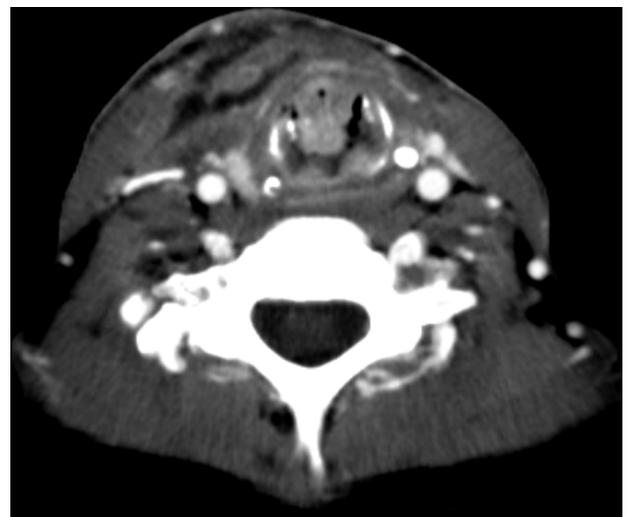


Fig. 2.

superinfection and the formation of a pre-laryngeal abscess. The failure to rapidly perform neck CT scan in the absence of improvement of the symptoms also contributed to the delayed diagnosis, as CT is an essential examination to confirm the diagnosis of cricoid chondronecrosis due to the non-specific clinical and endoscopic

findings [5]. The authors therefore recommend systematic post-contrast neck CT scan before initiating corticosteroid therapy for laryngoscopy-confirmed postextubation laryngeal oedema.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

References

- [1] Lacau-St-Guilly J, Brasnu D, Fabre A, et al. Lésions laryngées après intubation prolongée. Étude anatomo-pathologique. *Ann Otolaryngol Chir Cervicofac* 1986;103:179–84.
- [2] Guerrier Y, Andrea M. La vascularisation des cartilages du larynx. Son importance clinique. *J Radiol* 1977;94:273–88.
- [3] Hannion X, Legros M, Romain P, et al. Chondronécrose du cricoïde après intubation. À propos de deux cas. *J Fr Oto-Rhino-Laryngol* 1989;38:328–31.
- [4] Gehanno P, Leowski S, Lallemand Y, et al. Les chondronécroses du cricoïde après intubation prolongée. À propos de 4 observations. *Ann Otolaryngol Chir Cervicofac* 1980;97:711–24.
- [5] Bieganski A, Gorhan C, Chevalier D, et al. Chondronécrose du cricoïde après intubation prolongée. *J Radiol* 2002;83:161–4.

F. Desmots*

Service d'imagerie médicale, hôpital d'instruction des armées, 34, boulevard Laveran, CS 50004, 13384 Marseille cedex 13, France

L. Allali

T. Radulesco

Service d'oto-rhino-laryngologie, hôpital d'instruction des armées, 34, boulevard Laveran, CS 50004, 13384 Marseille cedex 13, France

Y. Geffroy

Service d'imagerie médicale, hôpital d'instruction des armées, 34, boulevard Laveran, CS 50004, 13384 Marseille cedex 13, France

* Corresponding author.

E-mail address: flo0162@yahoo.fr (F. Desmots)