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Alendronate-induced chemical laryngitis

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Abstract
Alendronate is a bisphosphonate used in treating osteoporosis. Its recognized side-effects include oesophageal irritation and ulceration. The authors describe a case of laryngitis induced by transient contact of this medication with the laryngeal mucosa. Successful management of this case is also detailed.

Key words: Alendronate; Laryngitis

Introduction

Alendronate (Fosamax™) is an aminobiphosphonate licensed in the United Kingdom for the treatment of osteoporosis in postmenopausal women and patients with Paget's disease of bone. In 1996, the manufacturers of this drug, Merck and Co, issued a warning of the potential of this medication to cause severe oesophagitis.[1] There have been numerous case reports of such injury to the oesophageal mucosa since this warning, and the British National Formulary advises against the use of alendronate where oesophageal emptying is impaired.[2] Two clinical cases of alendronate-induced palatal mucosa ulceration have also been reported.[3] The exact mechanism whereby alendronate causes aerodigestive tract mucosa irritation is uncertain, but it is thought to be a topical effect,[4] possibly through disruption of the cellular phospholipids barrier.[5]

The authors describe a case of laryngitis induced by temporary lodging of a tablet of alendronate in the larynx.

Case report

Our case is of a 68-year-old woman who had been prescribed alendronate (70 mg once a week) by her general practitioner for postmenopausal osteoporosis. She had suffered no initial side-effects from this medication. On one occasion at home, while taking this medication in the recommended manner (with a glass of water, sitting upright), she experienced a sensation of the tablet becoming lodged in the left side of the larynx. The coughing that ensued dislodged the tablet and this was expelled within a matter of seconds. The patient stated that the tablet appeared to have partially dissolved, presumably into the supraglottic region.

The effects of this incident in the initial stages, according to the patient, were a sensation of burning and pain in the throat. Two days later the patient described symptoms of difficulty in breathing, odynophagia and hoarseness of voice. These symptoms began to progress rapidly overnight, and so she sought the advice of her general practitioner who prescribed an oral dose of prednisolone 30 mg and referred her urgently for otolaryngology review.

The patient was seen that afternoon and was clinically stridulous and tachypnoeic, but without decrease in peripheral oxygen saturations on pulse oximetry. A diagnosis of laryngitis was confirmed by flexible nasendoscopy. The arytenoids appeared injected and ulcerated bilaterally, as did the aryepiglottic folds. Some anterior subglottic inflammation was also noted. Although the airway was not severely compromised at that stage, the patient was admitted for treatment and observation.

Treatment comprised administration of intravenous dexamethasone (4 mg t.d.s.) and nebulized adrenaline (1 mg in 5 ml 0.9 per cent saline) as required. A course of intravenous broad-spectrum antibiotics (cefuroxime 750 mg t.d.s. and metronidazole 500 mg t.d.s.) was also prescribed as a precautionary measure.

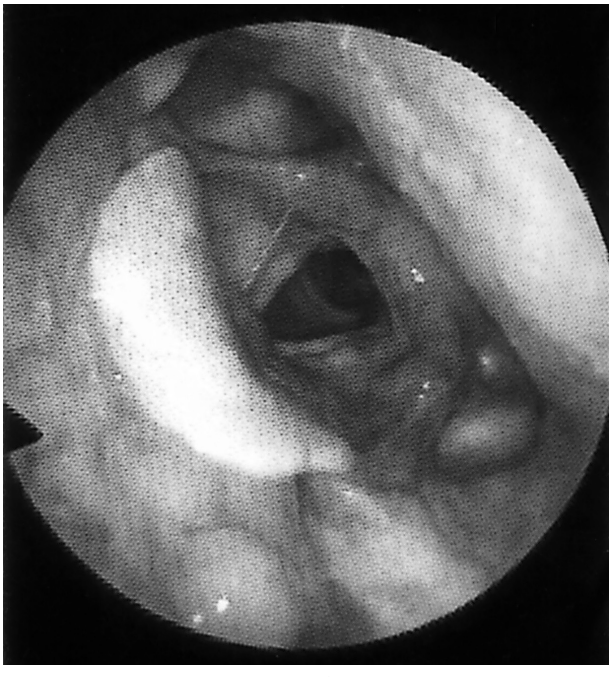


Fig. 1
Nasendoscopic view of patient's larynx in recovery phase of inflammation.

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The patient was seen the following morning, 18 hours after the initiation of treatment. She had made a rapid clinical recovery with reduction in the amount of laryngeal inflammation confirmed by repeat flexible nasendoscopy that afternoon (Figure 1). Discharge was later that day.

- **Oesophageal irritation and ulceration are recognized side-effects of alendronate**
- **Laryngitis induced by transient contact of this medication with the laryngeal mucosa has not been described previously**
- **The chemical mechanism of alendronate irritation is still not known**

The patient was reviewed in the out-patient clinic one and two weeks later, with repeat views of the larynx showing a return to normal.

Discussion

Alendronate is a recognized cause of oesophageal and palatal mucosal irritation and ulceration. This case is the first report of a similar insult to the laryngeal mucosa from this medication, and further highlights the need for care in self-administration. This cause of laryngitis appears to respond to intravenous steroid therapy, but the potential for airway compromise from the contact of alendronate with laryngeal mucosa must be taken seriously.

The manufacturers of alendronate have been advised of this incident.

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