Reminder of important clinical lesson

A rare cause of upper airway obstruction: spontaneous synchronous sublingual and laryngeal haematomas

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Correspondence to Dr Sahar Parvizi, sahar.parvizi@gmail.com**Summary**

Anticoagulation with warfarin is commonly used for prevention of thromboembolic events in patients with atrial fibrillation. Bleeding is the main side effect of anticoagulation. We report the case of a 66-year-old man who developed two spontaneous synchronous upper airway haematomas while on warfarin therapy. To our knowledge, this is the first reported case of a sublingual haematoma presenting simultaneously with supraglottic laryngeal haematomas. Upper airway haematomas are rare in the absence of a history of trauma but need to be urgently assessed due to their life-threatening potential. Clinicians should be aware of the possibility of haematomas involving the upper airway in patients on anticoagulant therapy, particularly if complaining of red flag symptoms such as acute onset dysphonia, odynophagia or airway/breathing difficulties.

BACKGROUND

Upper airway haematomas in the absence of trauma are rare but can be life threatening due to their potential to expand and cause airway obstruction.¹⁻² There have been several reported cases of such haematomas in different locations in the upper airway in anticoagulated patients.¹⁻⁵ To our knowledge, this is the first reported case of spontaneous synchronous sublingual and supraglottic haematomas.

CASE PRESENTATION

We report the case of a 66-year-old man with atrial fibrillation, who developed spontaneous sublingual and bilateral aryepiglottic fold haematomas while on warfarin. He presented to his general practitioner 8 h after a coughing fit during the night with a sore throat, dysphonia, odynophagia and breathing difficulty when lying flat. Upon arrival at the hospital he appeared alert, sitting upright with no obvious signs of upper airway obstruction, stridor or stertor. His respiratory rate was 20 breaths/min with saturations of 93% on room air and his heart rate was irregularly irregular at 78 beats/min.

INVESTIGATIONS

On examination, there was bruising and swelling of the neck anteriorly in the submental region (figure 1A). He had a tender swelling and bruising in the floor of the mouth (figure 1B). Flexible nasal endoscopy was performed. This confirmed pooling of saliva and supraglottic swelling with bilateral aryepiglottic fold haematomas worse on the right (figure 2), with encroachment over the glottic aperture posteriorly.

TREATMENT

He was immediately given high-dose intravenous dexamethasone and nebulised epinephrine to reduce his associated upper airway oedema. Following discussion with the anaesthetic team, he was transferred to the high dependency unit for close observation.

An urgent full blood count and international normalised ratio (INR) revealed an haemoglobin of 15.0 g/dl and INR of 7.6. After consultation with the on-call haematologist, prothrombin complex concentrate (PCC; Beriplex P/N; CSL Behring UK, West Sussex, UK) was considered the most appropriate and rapid method of reversal of anticoagulation. It was administered at a dose of 35 units/kg over 10 min to fully reverse the effects of warfarin. A 5 mg intravenous dose of vitamin K was also given to maintain the effects of reversal. A repeat INR measurement taken at 1 h after administration of PCC and intravenous vitamin K measured 1.0.

OUTCOME AND FOLLOW-UP

His symptoms improved considerably within the first 12 h of treatment, and he was able to tolerate oral sips. Regular high-dose steroids were continued while he was closely monitored. Subsequent endoscopic assessments of the larynx showed a progressive resolution of the haematomas and supraglottic oedema over the course of several days. Repeat INR measurements during the course of admission remained at the normal ratio, 1.0.

On day 4 of admission, he was able to breathe easily lying flat and his airway had returned to normal. His voice had normalised and he was eating and drinking without any difficulty. His general practitioner was contacted to ensure a closer monitoring of his anticoagulation, and he was discharged home.

DISCUSSION

PCC is an efficacious agent in rapidly reversing the effects of warfarin.⁶ It contains the same human coagulation factors (II, VII, IX, X and proteins C and S) as fresh frozen plasma (FFP), but has been shown to be superior to FFP in its rapidity of action.⁷ PCC completes reversal of anticoagulation within 30 min of administration, compared to around 2 h for FFP with additional time required for ABO

Figure 1 (A) Bruising and swelling of the neck. (B) Sublingual haematoma.

Figure 2 Supraglottic swelling with bilateral aryepiglottic fold haematomas – larger on right. E, epiglottis; H, haematoma on right aryepiglottic fold; T, trachea; V, true vocal cords.

blood typing and thawing.⁸ Recommendations from the British Society of Haematology currently advocate the use of factor concentrate in preference to FFP in patients with major bleeding.⁹ Despite existence of guidelines for reversal of anticoagulation,⁶⁻⁹ it is advisable to liaise with the local haematological service when managing this group of patients as the exact circumstances of each individual case need to be carefully considered. This includes knowledge of the indication for anticoagulation, the potential risks of

reversal of anticoagulation and a considered judgement of the immediate risk to the patients' airway.

This case illustrates the potential for over-anticoagulated patients to develop haematomas involving the upper airway with little or no history of trauma. This case highlights the need for a low threshold in referring similar patients to ENT for immediate evaluation of the upper airway. Admission for further management of these at-risk patients is mandatory, with a multidisciplinary team

approach including an otorhinolaryngologist and anaesthetist. It also illustrates an effective therapeutic agent for the prompt reversal of warfarinisation, potentially reducing the need for airway intervention.

Learning points

- ▶ Be aware of the possibility of spontaneous haematomas involving the airway in patients on anticoagulant therapy.
- ▶ A complete patient evaluation and examination as directed by the patient's history is essential.
- ▶ Pay particular attention to potential warning signs and symptoms: acute onset dysphonia, odynophagia, breathing difficulty when lying flat, bruising in the mouth and neck.
- ▶ PCC provides efficacious and rapid reversal of warfarin anticoagulation in the management of upper airway haematomas.

Competing interests None.

Patient consent Obtained.

REFERENCES

1. **González-García R**, Schoendorff G, Muñoz-Guerra MF, *et al*. Upper airway obstruction by sublingual hematoma: a complication of anticoagulation therapy with acenocoumarol. *Am J Otolaryngol* 2006;**27**:129–32.
2. **Lee M**, Berger HW, Granada MG. Acute upper airway obstruction. Sodium warfarin-induced hemorrhage into the base of the tongue and epiglottis. *Chest* 1980;**77**:454–5.
3. **Ikeda R**, Chiba T, Gorai S, *et al*. Upper airway obstruction by epiglottitis and arytenoids hematoma in a patient treated with warfarin sodium. *Auris Nasus Larynx* 2010;**37**:114–16.
4. **Acar F**, Girisgin SA, Cander B, *et al*. Lingual haematoma: a rare complication of usual warfarin dose. *BMJ Case Rep* 2009; doi:10.1136/bcr.2007.053314.
5. **Lim M**, Chaudhari M, Devesa PM, *et al*. Management of upper airway obstruction secondary to warfarin therapy: the conservative approach. *J Laryngol Otol* 2006;**120**:e12.
6. Scottish Intercollegiate Guidelines Network (SIGN) – Antithrombotic Therapy Guideline No. 36, section 13. March 1999. ISBN 1899893768. <http://www.sign.ac.uk/guidelines/fulltext/36/section13.html> (accessed Jan 2011).
7. **Bruce D**, Nokes TJ. Prothrombin complex concentrate (Beriplex P/N) in severe bleeding: experience in a large tertiary hospital. *Crit Care* 2008;**12**:R105.
8. **Pabinger I**, Tiede A, Kalina U, *et al*. Impact of infusion speed on the safety and effectiveness of prothrombin complex concentrate: a prospective clinical trial of emergency anticoagulation reversal. *Ann Hematol* 2010;**89**:309–16.
9. **Baglin TP**, Keeling DM, Watson HG. Guidelines on oral anticoagulation (warfarin): third edition–2005 update. *Br J Haematol* 2006;**132**:277–85.

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