

Beware of upper airway obstruction in warfarinized patients

Madam,

We would like to draw attention to the airway risks of anticoagulation with coumarins. Patients on a coumarin are at risk of spontaneous upper airway obstruction secondary to hematoma if anticoagulation is poorly controlled. Treatment in these instances needs to be prompt and includes medical, anesthetic, and potentially surgical intervention. We recently encountered a patient with acute airway obstruction secondary to spontaneous lingual, sublingual, and supraglottic hematoma while on warfarin.

An 86-year-old woman was admitted under the care of the medical team and treated for a community-acquired

pneumonia and pulmonary edema. On day 3 of her admission, she was noted to have malar, chin, and submental ecchymosis [Figure 1]. Within 24 h, it was noted that she was in respiratory distress with clearly audible stertor and a subtle inspiratory stridor. Her respiratory rate was noted to have increased and her oxygen saturations dropped from 96% to 90% on room air. This was accompanied by significant chin, submental, neck, and upper chest ecchymosis [Figures 1 and 2 post intubation]. Oral examination revealed a swollen and purple tongue and floor of mouth, consistent with lingual and sublingual hamatomas. Flexible nasoendoscopy revealed diffuse submucosal supraglottic hematoma with a narrowed laryngeal inlet. Blood screening demonstrated an international normalized ratio of 4 and a stable hemoglobin and platelet count. Initial management included nursing the patient upright and administration of oxygen through a non-rebreath mask, at a flow rate of 15 L/min. Intravenous vitamin K was administered immediately. After a hematology consult, four-factor



Figure 1: Malar, chin, and submental ecchymosis seen on day 3

prothrombin complex concentrate (Beriplex P/N; CSL Behring UK, West Sussex, UK) was administered as a rapid reversal of anticoagulation. Once stabilized, she was transferred to theater for fiberoptic intubation, with an ENT team available to establish a surgical airway. The patient was successfully intubated through the oral route and was transferred to the intensive care unit for further support. Subsequently respiratory failure after 24 h of ventilation in the ICU led to unfortunate demise of the patient.

It is well known that patients on coumarins are at higher risk of significant spontaneous hemorrhage, both intracranially and extracranially.^[1] Spontaneous hemorrhage and hematoma formation have been reported in the upper airway, including in sublingual, submandibular, and laryngeal submucosal spaces.^[2-4] Quick recognition of these potentially life-threatening presentations is necessary to ensure timely reversal of anticoagulation and placement of a definitive airway if necessary. The initial management of these patients should include oxygen therapy, upper airway evaluation with flexible laryngoscopy, reversal of anticoagulation, and close monitoring.^[4] The timing and mode of securing the airway remain controversial and without consensus.^[5] Uppal *et al.* state that cricothyroidotomy may be preferable to surgical tracheostomy in such cases, as dissection inevitably involves less blood loss given the avascular nature of the overlying tissues, and the patient's requirement for a surgical airway is likely to be brief.^[6] From the literature, it appears that discrete laryngeal hematomas are less likely to require a definitive airway intervention than diffuse lingual, sublingual, retropharyngeal, and submucosal haematomas.^[7]

Upper airway hematomas are rare but potentially life-threatening complications of anticoagulation. Awareness



Figure 2: Chin, submental, neck, and upper chest ecchymosis seen post intubation on day 5

of their occasionally unprecipitated nature is important. In such cases, we recommend timely reversal of anticoagulation, close airway monitoring with serial flexible endoscopy, and early consideration of intubation in theater, with ENT team prepared to immediately secure a surgical airway in case of failed intubation.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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