Spontaneous atraumatic lingual haematoma presenting with threatened airway obstruction

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Spontaneous bleeding in the head and neck region is exceedingly rare, particularly in the absence of trauma or an underlying disorder. We describe a case of an atraumatic lingual haematoma in an 88-year-old male presenting with threatened airway obstruction. The only risk factor our patient had was Aspirin use. Our patient was able to be managed conservatively with observation in the hospital’s high dependency unit (HDU) and intravenous steroid (Dexamethasone) and antibiotic (Amoxicillin + Clavulanic acid) therapy. We discuss this case to highlight the importance of recognising an impending airway emergency in the setting of deep space bleeding or swelling.

ABSTRACT
Spontaneous bleeding in the head and neck region is exceedingly rare, particularly in the absence of trauma or an underlying disorder. We describe a case of an atraumatic lingual haematoma in an 88-year-old male presenting with threatened airway obstruction. The only risk factor our patient had was Aspirin use. Our patient was able to be managed conservatively with observation in the hospital’s high dependency unit (HDU) and intravenous steroid (Dexamethasone) and antibiotic (Amoxicillin + Clavulanic acid) therapy. We discuss this case to highlight the importance of recognising an impending airway emergency in the setting of deep space bleeding or swelling.

Case report
Our case involves an 88-year-old male with a background medical history significant for:

- Previous bilateral subdural haemorrhage requiring dual burr hole drainage while on Dabigatran for paroxysmal atrial fibrillation;
- Ischaemic heart disease with a four-vessel coronary artery bypass grafting surgery completed in 2004;
- Paroxysmal atrial fibrillation— not anti-coagulated at time of presentation;
- Dyslipidaemia;

The rich vascular supply to the tongue has dichotomous consequences like other tissues in the head and neck region—reduced infection risk and faster healing time is counter-balanced with more profuse bleeding. Bleeding within the tongue may result in postero-superior displacement of the tongue and life-threatening airway obstruction.}

While traumatic lingual or sublingual bleeding is frequently reported in the literature, spontaneous lingual haematoma formation in the absence of an underlying anatomical abnormality or systemic condition is exceedingly rare. Potential anatomical abnormalities include arteriovenous malformations (AVMs) and tumours. Systemic conditions may include clotting function disorders, antiplatelet or anticoagulant medication use and vessel-wall fragility conditions.
This 88-year-old male woke up one morning with massive painless swelling of his tongue. He presented to his local general practitioner (GP) with severe dysphagia and dysarthria secondary to the tongue swelling.

He was subsequently sent to the nearest hospital's emergency department. At the emergency department, he was taken to the resuscitation (RESUS) area.

On history, the patient had gone to sleep the night before after eating his usual dinner (egg sandwich) with no issues. The following morning he woke to find his tongue was severely swollen (with a bluish-purple discoloration). He had significant impairment of speech as well as dysphagia.

He denied pain, fevers, preceding trauma (including tongue biting, insect bite, falling) and difficulty in breathing.

There was no stridor or laboured breathing, only mild dysarthria. Vital signs including respiratory rate, oxygen saturation and temperature were all within acceptable limits.

Oral examination revealed marked lingual swelling and blue/black discoloration with only the hard palate being visible superiorly. The tongue was soft and non-tender with very limited movement; there were no signs of traumatic injury such as bite marks or external bleeding. The floor of mouth was soft and non-tender. Native dentition was healthy with no signs of acute dental or periodontal infection.

Examination of the neck including the submental and submandibular region was unremarkable, full range of neck movement was preserved.

Flexible nasendoscopy revealed a similarly discoloured and swollen base of tongue with mild supraglottic oedema and pooling of secretions. There was no supraglottic erythema or evidence of infection. Vocal fold motion was normal. The airway was patent.

Laboratory investigations were essentially normal.

A computed tomography (CT) scan of the neck with intravenous contrast showed...
only swelling of the tongue. The internal structures of the tongue (including intrinsic musculature and midline raphe) were normal. No underlying collection, mass, tumour or vascular malformation was seen. The lingual arteries also looked unremarkable with no evidence of active or recent bleeding.

A decision was made not to secure the airway with endotracheal intubation or tracheostomy. The patient was admitted to HDU overnight for observation to ensure there was no further airway compromise and was started on empiric steroid therapy (Dexamethasone IV 8mg Q8H) and antibiotic therapy (Amoxicillin and Clavulanic acid IV 1.2g Q8H).

On the following day, the patient was stepped down to a dedicated ORL ward for further monitoring as the tongue swelling had reduced. He was continued on antibiotic therapy while the steroid therapy was weaned down.

Haematology advice was sought, and additional blood tests (Factor VIII assay, Von Willebrand Factor antigen, Ristocetin factor, Collagen binding assay and Factor XIII assay) were within acceptable limits.

No further input from their service was required.

The patient remained in hospital for a further two days as the tongue swelling continued to reduce. He was eventually discharged on the third day of his admission once his speech and swallowing function was back to baseline. He was prescribed a further five-day course of oral antibiotic therapy.

Discussion

Spontaneous atraumatic lingual haematoma causing airway compromise is an exceedingly rare clinical entity. It is usually associated with bleeding disorders or underlying structural abnormalities. The only risk factor this patient had for his lingual haematoma was Aspirin. Trauma is an important cause of lingual or sublingual haematoma, it typically occurs in a patient who is using an anticoagulant medication such as Warfarin or Dabigatran. There was no evidence of this in our patient, with no history of injury, and no laceration, scratch, bite mark or external bleeding seen. Another important group of underlying abnormalities to consider in a patient such as ours is structural abnormalities such as tumour or vascular malformation. Again there was no evidence of either of these from the patient’s CT scan.

Definitive management of a case like ours can vary depending on the underlying cause (ie, medical correction of an underlying haematological disorder vs surgical management of an underlying tumour), but the most important issue is airway management.
Airway risk in a case like ours is similar to that seen in Ludwig's angina, where progressive swelling of the sublingual soft tissue results in postero-superior displacement of the oral tongue causing obstruction to the oropharyngeal airway.\textsuperscript{4}

Intubation was ultimately not required as the patient's airway was deemed safe enough for close observation in HDU with an explicit understanding that any further increase in lingual swelling would necessitate immediate and definitive airway management.

This case highlights the importance for all healthcare professionals to recognise the risk that any lingual, sublingual or external neck swelling can put on a patient's airway.

\textbf{Figure 3:} Photograph of patient's tongue 55 days after initial presentation with no persisting swelling or discolouration.
Competing interests:
Nil.

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