Intubation Resulting in Significant Tongue Hematoma

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ABSTRACT

Intubation carries the risk of various complications, including injury to the teeth, throat or trachea, aspiration, or hemodynamic instability associated with induction of anesthesia. While dental trauma is the most common, local site ischemia or injury to the tongue may occur leading to either necrosis or compression and airway compromise. (1)

We report an incidence of **significant atraumatic postoperative tongue hematoma** in a 58 year old male. Medical history was notable for chemotherapy for multiple myeloma with resultant pancytopenia more specifically thrombocytopenia.

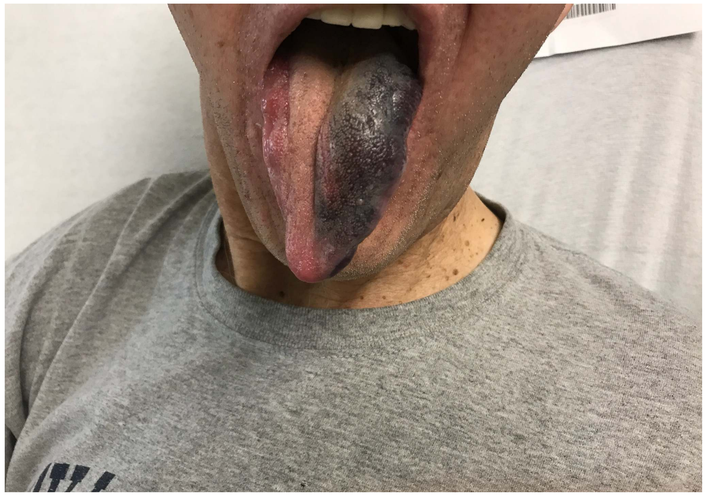
CASE PRESENTATION

The patient was a 58 year old male with significant past medical history of multiple myeloma, immunosuppression due to recent administration of chemotherapy and cerebral vascular accident with no residual deficits who presented for an inguinal hernia repair. He was 6'3" weighing 92.1 kg with a BMI of 25. His preoperative complete blood count were remarkable for pancytopenia with WBC 3.49, hemoglobin of 12.3, hematocrit of 36.2 and **platelets of 62**. Previously, he was noted to have difficult IV access and a difficult blood cross-match. Overall on physical exam he was noted to be in poor physical health therefore determined to be an ASA 3.

On **airway exam**, he had full range of motion of his neck, thyromental distance of >3 fingerbreadths and had a Mallampati classification of 1.

The patient underwent an intravenous induction and was easy to mask ventilate. With a Macintosh 4 blade, he had a grade 1 view and was subsequently intubated with a 8.0 mm cuffed endotracheal tube without obvious oral trauma. The endotracheal tube was in place throughout the operation, which was less than 90 minutes. The inguinal hernia repair was performed without complication and upon completion the patient emerged smoothly, successively extubated, and was taken to the recovery room.

Postoperatively the patient did well, he remained normotensive with an unremarkable heart rate and respiratory rate. He rated his pain as 2/10 and did not experience nausea, vomiting, or any other anesthesia complications from the surgery. He had an uneventful recovery in the PACU.



Later in the day, he complained of some altered sensation and mild burning on the left side of his tongue. Upon examination at that time, it was noted that the patient had a large hematoma on the left side of his tongue. He was able to fully mobilize his tongue and the pain was alleviated with popsicles. We were consulted to assess any postoperative anesthetic concerns. The otolaryngology team evaluated the patient and with no external evidence of trauma or injury determined that no intervention was necessary, the hematoma would likely self-resolve.

Etiologies of the tongue hematoma such as possible pressure from the Macintosh blade during intubation and pressure from the endotracheal tube during the operation in combination with his low platelet count were discussed with the patient. The patient verbalized understanding and agreed to follow-up as needed.

We followed up with the patient a month later and he reported that the hematoma **self-resolved within a week**. His sensation returned to baseline and his tongue continued to have full mobility. He denied any further complications from the procedure.

DISCUSSION

There is an abundance of literature that discusses the complications of laryngoscopy and endotracheal intubation. By far, the most common injury is dental injury including trauma to the lips and tongue. There are limited reports of lingual trauma. In addition to airway compromise and stridor, due to the highly vascular nature of the tongue, there is a high risk of hemorrhage and hematoma formation.

Potential causes of tongue hematoma:

- Lingual hematoma: spontaneous : coagulopathy or anticoagulation treatment (2)
- Trauma during intubation: tongue, lips, vocal cords, bleeding
- Trauma due to endotracheal tube or LMA placement
- Trauma during a seizure

Management:

- Prompt Assessment
- Airway control if edema or airway compromise
- Observation
- Steroids
- Antibiotics
- Reversal of anticoagulants
- Surgical Intervention or IR embolization

We have not seen such a presentation of significant tongue hematoma in the absence of any traumatic factors during intubation. This may be due to thrombocytopenia in combination with the pressure related to laryngoscopy, or the pressure of the endotracheal tube resting on the tongue throughout the duration of the procedure.

CONCLUSION

We report a rare case of a patient developing a significant tongue hematoma in the context of thrombocytopenia and an otherwise unremarkable laryngoscopy and intubation.

REFERENCES

1. Miller, R.D. (2010). Miller's Anesthesia (7th ed.). Philadelphia, PA: Churchill Livingstone/Elsevier
2. Massey B et al. Case Report: Traumatic Lingual Hematoma. Trauma Case Rep. 2019 Apr; 20: 100177.