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Chiari I Malformation Decompression Surgery Leads to Postoperative Tongue and Neck Edema

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CASE DESCRIPTION
A 17 year old female was admitted with worsening headaches precipitated by Valsalva maneuvers. A Chiari Type 1 malformation was demonstrated on MRI and a surgical decompression was performed. Following uneventful surgery and extubation, the patient developed tongue swelling in the PACU. The patient was started on famotidine, diphenhydramine and dexamethasone. The patient was observed overnight in the PICU with no sign of airway compromise. The next day, additional asymmetrical swelling to the right side of the face was noted. After evaluation by ENT observed worsening laryngeal edema, the airway was secured with awake fiberoptic intubation following adequate topical anesthesia. Subsequent MRI revealed extensive soft tissue swelling of the head and neck. The patient was started on intravenous (IV) antibiotic therapy and the swelling subsided. The patient was extubated uneventfully 48 hours later.

INTRODUCTION
This case report describes a case of tongue and neck edema in the post-operative period. Edema in these areas following surgery are a challenge for anesthesiologists as they can cause swelling which can distort and sometimes compromise airway patency. Our patient developed airway edema following suboccipital craniectomy and required urgent awake fiberoptic intubation for airway protection.

DISCUSSION
Soft tissue swelling of the head and neck in the immediate post operative period has a variety of etiologies. Surgical site hematoma formation, traumatic intubation and infection are all possible sources for this complication.1 Prolonged prone position and the resultant dependant edema were also suspected initially. However, the asymmetrical nature of swelling along with the persistent worsening of the condition postoperatively suggested other etiologies. Ludwig’s angina, an uncommon form of sublingual, submental and submandibular cellulitis brought on by infection, was suspected initially as well, but the patient lacked the hard indurations, petechiae, leukocystosis, and fever commonly found in this disease.2 An allergic reaction to medications received perioperatively is also a common cause of this type of reaction – although no clear temporal connection could be made to any one agent.

Regardless of etiology, urgent management of worsening airway edema became necessary with a surgical team standing by for awake tracheostomy if fiberoptic intubation became problematic.

CONCLUSION
Post-operative head and neck swelling, can evolve into life-threatening conditions. Timely and skilled airway management is sometimes necessary to prevent potentially lethal consequences.

REFERENCES