



Case Report

Angioedema in the neurointerventional suite [☆]



Abraham Sonny MD (Staff) ^{a,*,1,2,3},

Rafi Avitsian MD (Associate Professor of Anesthesiology) ^{b,4,5,6},

M. Shazam Hussain MD (Head, Cleveland Clinic Stroke Program; Assistant Professor (Neurology), CCLCM; Staff, Vascular Neurology and Endovascular Surgical Neuroradiology) ^{c,7,8,9},

Hesham Elsharkawy MD (Assistant Professor of Anesthesiology, CCLCM of Case Western Reserve University) ^{d,10,11,12}

^aGeneral Anesthesiology and Department of Outcomes Research, Cleveland Clinic, Cleveland, OH

^bGeneral Anesthesiology, Cleveland Clinic, Cleveland, OH

^cVascular Neurology and Endovascular Surgical Neuroradiology, Cleveland Clinic, Cleveland, OH

^dGeneral Anesthesiology and Department of Outcomes Research, Cleveland Clinic, Cleveland, OH

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Abstract A 68-year-old woman with acute ischemic stroke presented for mechanical thrombectomy, after failed thrombolysis with intravenous recombinant tissue plasminogen activator. The procedure was completed successfully with dexmedetomidine infusion. However, she developed acute angioedema toward the end of the procedure requiring emergent fiberoptic-guided endotracheal intubation. Angioedema has been reported to occur after administering intravenous recombinant tissue plasminogen activator with an incidence of 1.3%-5.1% in patients with acute stroke.

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* Corresponding author at: Cleveland Clinic 9500 Euclid Ave/E30, Cleveland, OH 44195. Tel.: +1 919 360 3282; fax: +1 216 445 0605.

E-mail addresses: sonnya@ccf.org (A. Sonny), avitsir@ccf.org (R. Avitsian), hussais4@ccf.org (M.S. Hussain), elsharh@ccf.org (H. Elsharkawy).

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1. Introduction

An increasing number of stroke patients undergo intraarterial stroke therapy. These emergent procedures pose various challenges for anesthesiologists. There is limited time to complete the preoperative evaluation including detailed history of allergic reactions. This point becomes especially difficult or impossible in a patient with altered mental status or aphasia. A case of emergent angiography in a patient who needed immediate airway rescue after the development of orofacial angioedema is presented. Informed written consent was obtained from the patient to publish this case report.

2. Case

A 68-year-old woman with medical history of hypertension and atrial fibrillation presented to the emergency department with sudden onset of right arm and leg weakness along with dysarthria and aphasia. Her home medications included metoprolol, aspirin, and digoxin. The National Institute of Health Stroke Scale (NIHSS) score was 18 at presentation, and the head computed tomography (CT) revealed neither bleed nor ischemia. Subsequently, intravenous recombinant tissue plasminogen activator (rtPA) was administered; and the patient was transferred for further management and possible intraarterial stroke therapy.

Upon presentation, the patient was slightly drowsy and continued to have an NIHSS score of 14. Repeat head CT showed loss of architecture in the left caudate and lentiform nuclei, consistent with an acute ischemic stroke of the left middle cerebral arterial territory. She was immediately transferred to the neurointerventional suite for mechanical thrombectomy during monitored anesthesia care. All stan-

dard American Society of Anesthesiologists monitors were connected, and a left radial arterial line was placed for continuous blood pressure monitoring. Dexmedetomidine infusion was started at 0.5 $\mu\text{g}/\text{kg}$ per hour and titrated to achieve patient comfort and sedation.

Mechanical thrombectomy was successfully performed by a neurointerventionalist within 3 hours of administering rtPA. Toward the end of the procedure, she complained of difficulty breathing. Considerable facial and neck swelling was observed. A quick examination also revealed swelling of the tongue. Her vital signs, including blood pressure, remained stable; and no wheezing was heard on auscultation. In view of progressive symptomatic orofacial edema, awake fiberoptic intubation was performed. Significant swelling of all supraglottic structures were observed through the fiberoptic bronchoscope. A size 6 endotracheal tube was passed over the bronchoscope to secure the airway. Once the airway was secured, 50 mg of diphenhydramine and 10 mg of dexamethasone were administered intravenously. Immediate a postprocedural CT scan was done, which ruled out intracranial complication. However, a CT of the neck showed soft tissue swelling and obscuration of the nasopharyngeal and oropharyngeal airway around the endotracheal tube (Figure). She was transferred to the neurosurgical intensive care unit, where she remained intubated for 37 hours, until the facial swelling subsided and then she was extubated. She had an uneventful recovery and was discharged home on sixth day of her hospital stay. She had an NIHSS score of 1 at discharge with mild aphasia.

3. Discussion

Angioedema is defined as a sudden onset and well-circumscribed swelling of skin and its subcutaneous layers

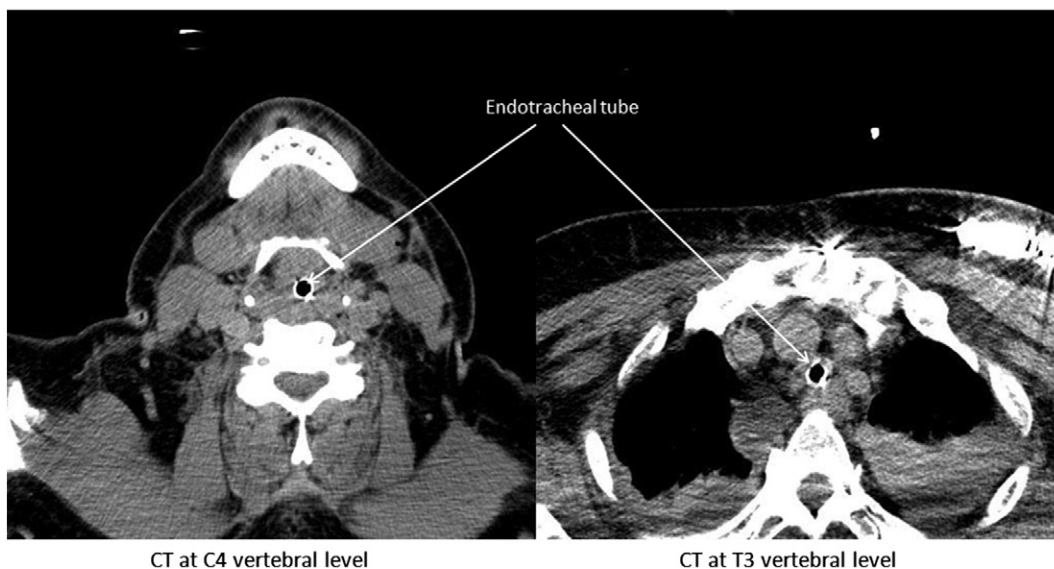


Figure Computed tomography scan of the neck performed immediately after occurrence of angioedema.

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