

From Diagnosis to Emergent Airway Management: Recurrent Acute Postoperative Sialadenitis

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Case Introduction to PACU

Patient Background

- 32-year-old female with a complex medical history including epilepsy, suprasellar germinoma, sebaceous cell carcinoma, right mucoepidermoid carcinoma of the parotid gland, bleomycin-induced pulmonary toxicity, diabetes insipidus, adrenal insufficiency from radiation, and hypothyroidism

Procedure and Immediate Postoperative Course

- Posterior craniotomy and cavernous angioma resection
- General anesthesia – intraoperative course was uneventful
- Mild left cheek swelling noted in the PACU
 - Remained hemodynamically stable
 - One hour without significant change → transferred to the progressive care unit

Postoperative Course and Outcome

Onset of Severe Symptoms and Emergency Intervention

- Three hours post-transfer → sudden respiratory distress with significant left-sided facial and neck swelling, inspiratory and expiratory stridor
- Flexible laryngoscopy: extensive edema of the tongue base, palate, epiglottis, arytenoids, and vestibular folds → emergent awake transnasal intubation → ICU

Diagnostic Workup and Medical Management

- CT head and neck: extensive edema within the left cheek, pharynx, and neck indicative of acute sialadenitis
- Laboratory tests for inflammatory markers and angioedema were normal, ruling out allergic reactions and hereditary or acquired angioedema
- Treatment: empiric antibiotics (piperacillin/tazobactam) for possible infection, dexamethasone to reduce inflammation

Clinical Course in ICU and Recovery

- Initial decrease in swelling during first 6 hours post-intubation → within 24 hours, edema worsened bilaterally, including periorbital swelling and tongue protrusion
- At hours 24 – 48: edema decreased, passed cuff leak test and was extubated to inhaled nebulized epinephrine
- Remainder of the hospital stay was uncomplicated
- Discharged home on postoperative day eight

Figures

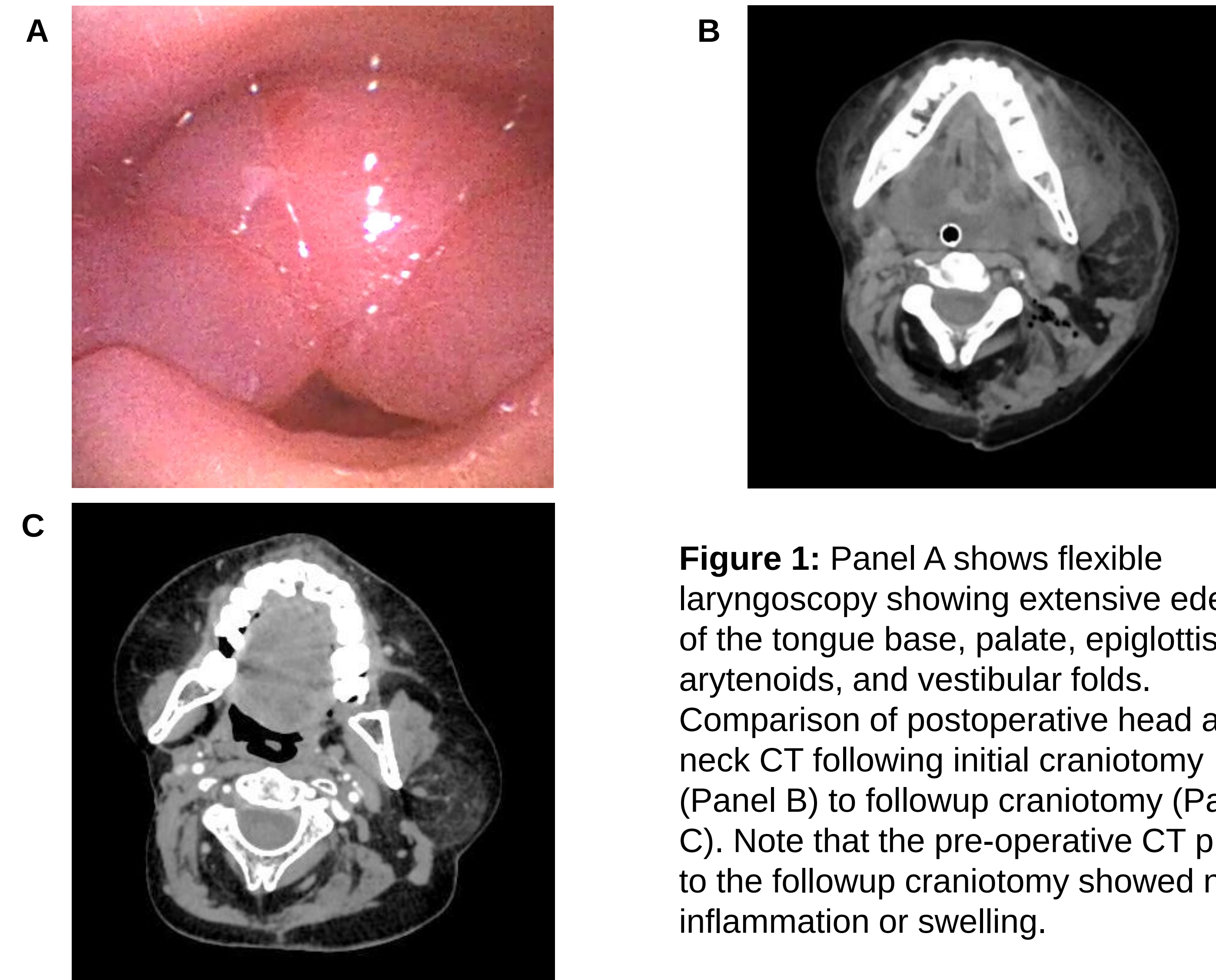


Figure 1: Panel A shows flexible laryngoscopy showing extensive edema of the tongue base, palate, epiglottis, arytenoids, and vestibular folds. Comparison of postoperative head and neck CT following initial craniotomy (Panel B) to followup craniotomy (Panel C). Note that the pre-operative CT prior to the followup craniotomy showed no inflammation or swelling.

Long-Term Followup

Recurrence in Subsequent Procedures and Preventive Measures

- Four additional procedures under general anesthesia during subsequent two years
 - Craniotomy x1
 - Intubated transfer post-procedure with planned extubation after monitoring for edema → uncomplicated extubation after 6 hours
 - Hepatic embolization x3
 - Extubated without complication in procedural suite
- Avoided glycopyrrolate, additional precautions with patient positioning
 - Mild left-sided facial swelling occurred, resolved without intervention after each
- Interestingly, no facial swelling following 3 cases with monitored anesthesia care

Focused Learning Points

Overview of Acute Postoperative Sialadenitis ("Anesthesia Mumps")

- A rare, transient inflammation of the salivary glands occurring after a procedure
- Incidence is low, but it can cause serious complications including airway obstruction

Clinical Features and Presentation

- Symptoms can appear within 0.5 to 8 hours postoperatively: mild facial swelling to severe airway obstruction requiring emergent intervention
- Unilateral or bilateral facial and neck swelling, respiratory distress, stridor, and extensive upper airway edema

Diagnostic Challenges and Differential Diagnosis

- Distinguishing from other postoperative complications such as hematoma, seroma, infection, or angioedema is essential
- Imaging (ultrasound or CT) confirms glandular enlargement or ductal obstruction, laboratory tests for allergic reactions or hereditary angioedema

Etiology and Contributing Factors

- Exact etiology unknown, but slight predilection for neurosurgical cases
- Potential factors include hypersensitivity reactions, dehydration, salivary duct obstruction, infection, parasympathetic overactivity, surgical trauma, medications including anticholinergics (reduced salivary flow → ductal stasis)

Management Strategies and Multidisciplinary Approach

- Early recognition of airway compromise signs is critical
- Adequate hydration, gland massage, and sialagogues to stimulate salivary flow
- Antibiotics for suspected infection; corticosteroids to reduce inflammatory response

Prevention, Clinical Implications, and Future Considerations

- Individualized care plans with close monitoring, medication adjustments, and proactive airway management and patient positioning strategies

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