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Recurrent Peritonsillar Inflammation and Suspected Adenoid Regrowth in a Post-Tonsillectomy Adult With Sickle Cell Disease: A Case Report

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Abstract: ***Background**: Peritonsillar inflammation is uncommon in post-tonsillectomy adults, especially in those with multiple adenoidectomies. In patients with sickle cell disease (SCD), infection-related presentations may pose diagnostic challenges and have hematologic implications. **Case Presentation**: A 35-year-old woman with sickle cell disease presented with acute dysphagia, sore throat, and decreased oral intake. She had a history of childhood tonsillectomy and three previous adenoidectomies. Examination revealed right-sided peritonsillar bulging without visible pus. Imaging ruled out abscess. Flexible nasopharyngoscopy showed a nasopharyngeal mass suggestive of adenoid hypertrophy. She was treated empirically with IV antibiotics and corticosteroids and showed rapid improvement. A planned adenoid biopsy two months later revealed no residual adenoidal tissue. **Conclusion**: This case highlights the diagnostic complexity of peritonsillar inflammation in post-tonsillectomy adults and raises the possibility of adenoid regrowth or inflammatory hypertrophy. In patients with sickle cell disease, early intervention is essential to prevent systemic complications.*

Keywords: Peritonsillar cellulitis, tonsillectomy, adenoid hypertrophy, sickle cell disease, pharyngitis, case report

1. Introduction

Tonsillectomy is commonly performed in childhood to treat recurrent tonsillitis and obstructive sleep apnea. While recurrence of peritonsillar infections post-tonsillectomy is rare, residual lymphoid tissue or minor salivary glands such as Weber's glands may become infected and mimic peritonsillar abscess (1,2).

Adenoid regrowth is also rare in adults, especially following multiple adenoidectomies. However, inflammatory hypertrophy or lymphoid tissue remnants may mimic recurrence and be misinterpreted as a mass on endoscopic evaluation (3).

In patients with sickle cell disease (SCD), infections can precipitate systemic crises, and oropharyngeal inflammation may be mistaken for more serious complications. This case report presents a unique combination of suspected peritonsillar inflammation and apparent adenoid regrowth in a patient with a complex ENT and hematologic history.

2. Case Presentation

A 35-year-old female with a known history of sickle cell disease presented to the emergency department with acute-onset sore throat, dysphagia, and reduced oral intake for one day. She reported a recent upper respiratory tract infection one week prior but denied dyspnea, hoarseness, or airway compromise.

She had undergone tonsillectomy in childhood and had a history of three prior adenoidectomies. There was no history of immunodeficiency, recent dental work, or trauma.

Clinical examination revealed a well-oriented but uncomfortable patient with right-sided peritonsillar swelling and bulging of the soft palate. The uvula was midline, and no visible pus or exudate was noted. The oral cavity was patent with no signs of obstruction or trismus.

Flexible nasopharyngoscopy demonstrated a nasopharyngeal mass consistent with adenoidal tissue or hypertrophy. The airway was patent with no signs of obstruction.

Needle aspiration of the peritonsillar region was performed and returned clear, non-purulent fluid. There was no abscess detected on contrast-enhanced CT neck, which showed localized peritonsillar soft tissue edema without fluid collection or deep space extension.

Laboratory results were notable for:

- Hemoglobin: 7.0 g/dL (consistent with chronic SCD anemia)
- WBC count: 36.2 × 10^9/L (marked leukocytosis)
- C-reactive protein (CRP): 26.1 mg/L (elevated)
- Throat swab sent for culture

The patient was admitted under the impression of pharyngitis with suspected peritonsillar abscess and treated with:

- IV ceftriaxone
- IV clindamycin
- IV dexamethasone
- Analgesics and IV fluids
- Chlorhexidine mouthwash

Over the course of 3 days, the patient improved clinically with resolution of dysphagia and fever. She was discharged on a tapering dose of oral antibiotics.

Due to concern for possible adenoid regrowth or mass, she was scheduled for adenoid biopsy under general anesthesia after infection resolution. However, intraoperative re-examination two months later revealed no identifiable adenoid tissue, and biopsy was not performed.

3. Discussion

Although peritonsillar abscess (PTA) is a common deep neck infection in patients with intact tonsils, it is unusual in post-tonsillectomy patients. However, peritonsillar cellulitis may still occur due to:

- Residual tonsillar tissue
- Infection of Weber's glands
- Minor salivary gland inflammation
- Adjacent soft tissue spread from pharyngitis (1,2)

This patient had signs of right-sided peritonsillar inflammation but no abscess on aspiration or imaging, making cellulitis or pharyngitis with reactive swelling the most likely diagnosis.

The nasopharyngeal mass raised concern for adenoid regrowth or neoplasm, especially given the patient's history of multiple adenoidectomies. However, inflammatory hypertrophy or mucosal thickening during acute infections can mimic mass lesions endoscopically (3,4). The absence of adenoidal tissue on follow-up surgical inspection supports a transient inflammatory etiology.

In patients with sickle cell disease, infections may trigger vaso-occlusive crises, acute chest syndrome, or other systemic complications. Early recognition and treatment of oropharyngeal infections are essential to avoid worsening anemia or systemic inflammation (5).

This case illustrates the importance of considering non-abscess peritonsillar inflammation, even post-tonsillectomy, and the need to interpret nasopharyngeal findings cautiously during acute illness. Conservative management can be effective, avoiding unnecessary procedures.

4. Conclusion

This case highlights a rare presentation of peritonsillar inflammation without abscess in a post-tonsillectomy adult with recurrent adenoidectomy history and sickle cell disease. It underscores the diagnostic challenges of interpreting nasopharyngeal findings during infection and supports conservative medical management with close follow-up. Awareness of these atypical presentations is crucial for ENT specialists managing immunocompromised or surgically altered patients.

Patient Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying clinical details.

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