Case report of lingual tonsillitis mimicking supraglottitis: a rare manifestation of infectious mononucleosis

Ankur Batra[1*], Hannah Niesser[2]

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ABSTRACT

Background: Infectious mononucleosis (IM) is known to present with upper airway obstructive symptoms; however, the association with lingual tonsillitis as a potential cause is rare.

Case Presentation: We present a case of a 23-year-old male patient presenting with symptoms mimicking supraglottitis and later diagnosed as lingual tonsillitis complicating IM.

Conclusion: It is imperative to keep lingual tonsillitis in sight in patient with symptoms of IM with airway compromise.

Keywords: Infectious mononucleosis, lingual tonsillitis, case report, supraglottitis, Epstein-Barr virus.

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Correspondence to: Ankur Batra
*Department of ENT, Royal Hampshire County Hospital, Winchester, UK.
Email: drankurbatra.orl@gmail.com
Full list of author information is available at the end of the article.

Background

Infectious mononucleosis (IM) is known to present with wide array of symptoms and the most common being sore throat, lymphadenopathy, and tonsillitis. It has been reported to present with upper airway compromise in literature due to oedema of epiglottis, pharynx, or uvula [1,2]. The symptoms can rarely mimic supraglottitis, an upper airway emergency in some patients requiring immediate involvement of otolaryngologist.

The presence of these unusual symptoms should raise the suspicion of involvement of lingual tonsils in patients with IM. The initial treatment should focus on stabilization of upper airway symptoms and thereon follow the management protocol for IM.

Case Presentation

A 23-year-old gentleman presented to the emergency department with intense odynophagia, fever, voice change, shortness of breath, and reduced oral intake. The symptoms had started 2 days prior and worsened gradually. He had no significant past medical history other than a previous bilateral tonsillectomy as a child. He was a current smoker, with no history of alcohol intake and no allergies. He was fully vaccinated for age.

He was referred urgently by the medical team to Ear Nose and Throat (ENT) given concerns of possible supraglottitis. On examination, the patient was acutely distressed with a hot potato voice. He was tachycardic with a heart rate of 111 and a low-grade temperature of 37.6ºC. The examination of the neck showed bilateral post-auricular and right-sided level three cervical lymphadenopathy. Examination of the oral cavity was unremarkable with no inflammation or congestion, and bilateral tonsillar fossa were consistent with a previous tonsillectomy. He had a normal chest examination without any added sounds, the abdomen was soft and non-tender, with no evidence of hepatosplenomegaly.

Under controlled settings, a flexible nasoendoscopy was performed to visualize the supraglottic structures. This revealed enlarged and inflamed lingual tonsils covered with exudate pushing the epiglottis posteriorly and downwards (Figure 1). Bilateral vocal cords were normal and mobile with otherwise normal anatomy. On palpation, the base of tongue was soft and tender.

Further investigation to identify the cause showed elevated white cell count of 21.9 (normal range 4-11) with lymphocytosis (17.74) (normal range 1.5-4.5). C-reactive protein (CRP) was 17 with a borderline positive Procalcitonin (0.26). Liver function tests were deranged with raised Alanine transaminase (ALT) (667), alkaline phosphatase (463) and normal bilirubin (12). Paul Bunnell test (monospot test) for glandular fever was also requested and was positive thus, confirming the diagnosis of IM.

The patient was commenced on IV antibiotics and supportive IV fluids, analgesia, and benzydamine (0.15% *w/v*) mouthwashes over the next 24 hours. He was discharged home; the next day once able to tolerate oral food

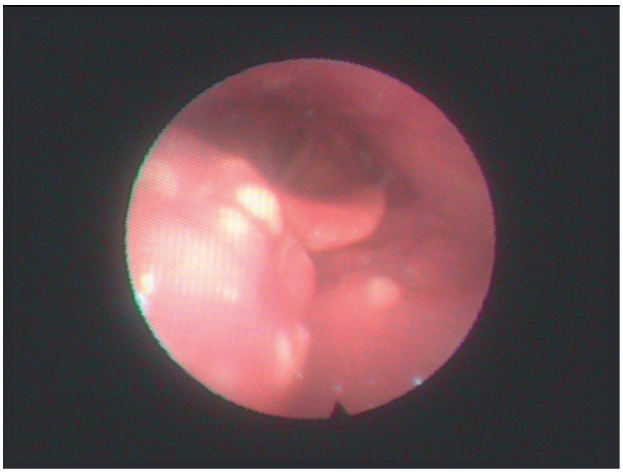

Figure 1. *Lingual tonsillitis with exudates, pushing on the epiglottis.*

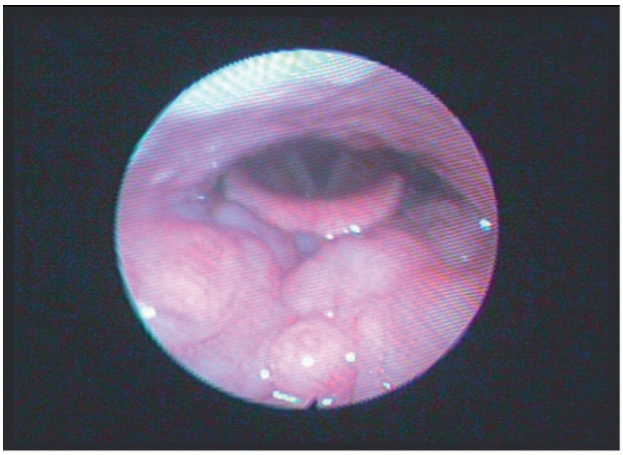

Figure 2. *Endoscopy after 1 month showing regression of lingual tonsils, follicles, and erythema.*

and fluids well. The patient was followed in ENT clinic 1 month later and the nasoendoscopy showed decreased size of lingual tonsils without any exudation (Figure 2).

Discussion

IM is caused by Epstein-Barr virus (EBV). The EBV infections are most common in early childhood and during late adolescence. Most EBV infections in infants and young children are either asymptomatic or present as mild pharyngitis with or without tonsillitis, whereas, in approximately 75% of adults, it presents as IM. The most common symptoms include fever, sore throat, and lymphadenopathy [3].

IM diagnosis is made on the basis of clinical signs & symptoms with laboratory findings. The blood studies show lymphocytosis with >10% atypical lymphocytes, abnormal liver function tests, and positive heterophile antibodies test, more commonly performed as the commercially available monospot test [3,4]. The most common ENT manifestation of IM includes cervical lymphadenopathy, sore throat, pharyngitis, or tonsillitis. Occasionally, some patients can present with upper airway obstruction due to hypertrophy of lymphoid tissue in tonsils (palatine or lingual) or adenoids. There can also be acute respiratory distress due to inflammation and oedema of epiglottis, pharynx, or uvula as reported in the literature [1,2].

The lingual tonsils form a part of Waldeyer's ring, along with palatine tonsils and adenoid with minor contribution from tubal tonsils and lateral pharyngeal bands. Exposure to allergens or pathogens can cause proliferation and hypertrophy of these lymphoid tissues. Compensatory hypertrophy of lingual tonsils has been known to occur following palatine tonsillectomy and adenoidectomy. Lingual tonsils are situated at the base of the tongue further extending to the vallecula and their hypertrophy can displace the epiglottis. As such, any inflammatory process of lingual tonsils can manifest as odynophagia, dysphagia, hot potato voice, and with/ without respiratory distress [2,5].

Our patient had a history of adenotonsillectomy and presented with fever, odynophagia, respiratory distress, and cervical lymphadenopathy and was managed conservatively in accordance with a differential diagnosis of supraglottitis. The treatment aimed at relieving the airway obstruction and should include intravenous corticosteroids, adequate hydration, analgesia, and antibiotics.

A detailed ENT head and neck examination was carried out and revealed lingual tonsillitis. Further blood investigations confirmed the diagnosis of IM complicated by lingual tonsillitis. There have been only three case reports of lingual tonsillitis in IM spanning the past 40 years. Har-El and Josephson [6] reported a case of an 18-year-old boy with IM complicated by lingual tonsillitis, who had a previous history of adenotonsillectomy. Roberge et al. [7] published similar finding in a 12-year-old girl in 2001. Recently, similar issue was raised in a letter to the editor by De Alwis and Kwon [8] in a 6-year-old boy.

Although the initial differential diagnosis of supraglottitis is appropriate and treatment should be commenced without delay targeted at relieving the airway obstruction, the presence of cervical lymphadenopathy and abnormal lab results in a young adult should always raise suspicion of IM and appropriate diagnostic tests should be ordered. Endoscopic examination carried out in controlled settings goes a long way in guiding the management.

Conclusion

Lingual tonsillitis is an unusual presentation of IM and should be considered as a differential diagnosis in patients with IM presenting with clinical features mirroring supraglottitis with a history of adenotonsillectomy.

What is new?

IM is known to present with wide array of symptoms and the most common being sore throat, lymphadenopathy, and tonsillitis. It has been reported to present with upper airway compromise in the literature due to oedema of epiglottis, pharynx, or uvula. The symptoms can rarely mimic supraglottitis, an upper airway emergency in some patients requiring immediate involvement of otolaryngologist.

List of Abbreviations

ALT Alanine transaminase
CRP C- reactive protein
EBV Epstein Barr Virus
ENT Ear Nose and Throat
IM Infectious mononucleosis

Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

Funding

None.

Consent for publication

Written informed consent to publish/present this case was obtained from the patient.

Ethical approval

Ethical approval is not required at our institution to publish an anonymous case report.

Author details

Ankur Batra[1], Hannah Niesser[2],

1. Department of ENT, Royal Hampshire County Hospital, Winchester, UK
2. Department of ENT, Royal Hampshire County Hospital, Winchester, UK

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Summary of the case

1	**Patient (gender, age)**	Male, 23
2	**Final diagnosis**	IM
3	**Symptoms**	Odynophagia, fever, voice change, shortness of breath and reduced oral intake
4	**Medications**	IV antibiotics and supportive IV fluids, analgesia
5	**Clinical procedure**	Fibreoptic nasoendoscopy
6	**Specialty**	Otorhinolaryngology