



Case report

A case of bilateral peritonsillar abscesses as a complication of acute mononucleosis

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ABSTRACT

Infectious mononucleosis (IM) is a relatively common infection in healthy young patients with few complications. Here we present a case of severe IM complicated with extensive bilateral peritonsillar abscesses. Clinicians should be aware of this complication of IM in patients with persistent or progressive symptoms. Epstein-Barr virus is a herpes virus that causes infectious mononucleosis (IM) in young adults. Symptoms are usually sore throat, lymphadenopathy, fever, and malaise Sylvester et al. [1]. IM has been associated with complications such as hemolytic anemia, myocarditis, splenic rupture, thrombocytopenia, hepatitis, etc Sylvester et al. [1]. There have been reports of suppurative processes involving the tonsils such as intratonsillar or peritonsillar abscesses, but these seem to be rare complications. Herein, we present a case of bilateral peritonsillar abscesses in a patient with severe mononucleosis.

Case report

Patient is a healthy 20-year-old woman who presented to a local urgent care with a 4-day history of sore throat and neck lymphadenopathy. She was afebrile. On exam she had bilateral tonsillar enlargement with erythema and exudate. Blood work showed leukocytosis with a white blood cell count of 13.5 K/ μ L with 63 % lymphocytosis and mild thrombocytopenia with platelet count of 121 K/ μ L. She had atypical lymphocytes. She also had an elevated C-Reactive Protein of 6.08 mg/dL (normal < 1.00 mg/dL). Monospot test was positive. Group A streptococcus PCR from throat swab was negative. Epstein-Barr virus (EBV) serology showed positive VCA IgM with negative VCA IgG and EBNA antibodies indicative of acute EBV infection. Patient was discharged home on oral prednisone 20 mg daily for the significant tonsillar enlargement and difficulty swallowing. She then developed worsening dysphagia and sore throat impairing her ability to eat. She was re-evaluated in the Emergency Department 4 days later. She was afebrile. Blood work showed elevated level of transaminases, with an AST of 46 U/L, ALT of 193 U/L, and alkaline phosphatase of 153 U/L. Her leukocytosis normalized by this point, however she had persistent atypical lymphocytosis with an absolute lymphocyte count of 3.26×10^9 /L. CT neck with intravenous contrast showed bilateral peritonsillar abscesses with extensive bilateral cervical adenopathy (Fig. 1). Incision

and drainage of the bilateral tonsils was performed in the ED. Patient was started on ampicillin/sulbactam with clinical improvement. She was discharged on amoxicillin/clavulanic acid to complete treatment.

Discussion

Deep space neck infections including tonsillar and peritonsillar abscesses are rare, but are the most common cause of a deep neck infection. This is especially true in young adults and children, who account for 50 % of cases. In patients who present with airway compromise, prompt incision and drainage is indicated, although in patients who cannot tolerate general anesthesia or have bleeding issues, a needle aspiration can be considered by an experienced clinician. Needle aspiration may also lead to less side effects, although these patients need to be observed closely following the procedure to ensure they can tolerate oral intake. In those patients who have patent airways, surgical debridement can be withheld, and patients can be managed conservatively with antibiotic and steroid therapy. Empiric antibiotic therapy is typically with broad spectrum coverage for oral flora, including *Streptococcus pyogenes* and anaerobes. There does not appear to be consensus in the current literature with regards to clinical improvement in a patients clinical course if they receive steroid therapy, and additional study into this question needs to be completed. In the most severe of cases, tonsillectomy can be

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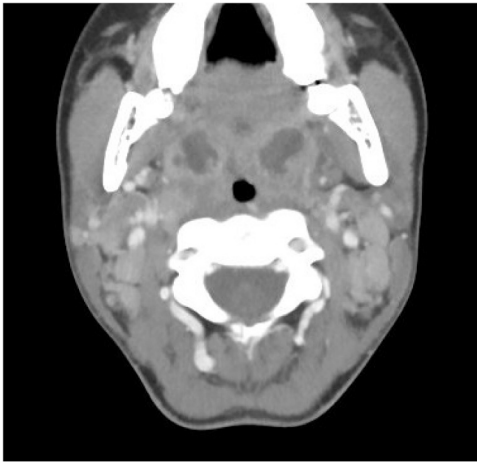


Fig. 1. CT neck showing bilateral peritonsillar abscesses.

considered if there is significant airway obstruction or there has been no resolution with other treatment modalities. Tonsillectomy in adults is typically considered a higher risk procedure as well, therefore careful consideration needs to be given to this treatment course in older patients [2].

Tonsillar or peritonsillar abscesses seem to be a potential complication of EBV infection that has been rarely described in the literature [3]. In 1998, Burstin et al. reported a case of bilateral peritonsillar abscesses in a patient with mononucleosis receiving steroids [4]. These authors suggested the use of antibiotics in patients with IM who receive steroids. Although there has been a concern that steroid use could lead to peritonsillar abscesses in patients with IM, there are no studies confirming this possible complication [5]. It seems however that EBV infection on its own can cause suppurative complications involving the tonsils. In a study of patients with severe IM, peritonsillar abscesses were not only reported as a complication, but were noted to be bilateral in 25 % of patients, which is significantly higher than the reported frequency in patients without IM [6]. Moreover, intratonsillar abscesses, which are rarely reported in the literature, have also been reported in cases of severe IM [3]. *Streptococcus pyogenes*, which is known to cause suppurative infections of the tonsils, has not been frequently isolated in these IM related tonsillar abscesses [6]. Based on this information, it seems that there is a possible association between IM and peritonsillar abscesses [6].

There seems to be a possible explanation for the association between EBV infection/IM and tonsillar abscesses. During the acute EBV infection there is a decreased mucosal production of antibodies that could allow the attachment of bacteria to the tonsillar epithelium with subsequent penetration of bacteria resulting in the formation of an abscess [7]. Based on the scant medical reports regarding this potential

complication of acute EBV infection, we felt that reporting this case was of clinical value. This patient presented with worsening symptoms of IM and on imaging studies of the neck was found to have extensive bilateral abscesses that required drainage to result in clinical improvement. Physicians need to be vigilant of this potential complication in patients with persistent or worsening upper respiratory symptoms consistent with mononucleosis.

CRediT authorship contribution statement

All authors have seen and approved the manuscript and contributed significantly to the work. **Eric O. Gomez Urena:** study design, image collections, writing, literature review. **Jessica L. Sheehy:** writing, proof-writing. **Ivaylo Krastev:** writing, proof-writing.

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Ethical approval

Not needed.

Consent

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

Declaration of interest

None.

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