



Bilateral peritonsillar abscess. A case report and review of controversies surrounding diagnosis and management

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ABSTRACT

The bilateral presentation of peritonsillar abscess is uncommon. Its management is controversial and it has been argued whether a quinsy tonsillectomy or an interval tonsillectomy should be performed.

Here we describe the case of a 14-year-old boy with sore throat, trismus, and fever. He had bilateral tonsillar hypertrophy, convex arches, and soft palate edema. Computed tomography: bilateral tonsillar hypertrophy, with post-contrast enhancement, both with collection, edema with moderate pharyngeal stenosis. The patient was hospitalized for intravenous therapy and tonsillectomy with bilateral drainage resulting in a complete resolution of his condition and discharge at 48 hours.

In the presence of a peritonsillar abscess, an unsuspected contralateral abscess should be considered. It should be diagnosed and managed adequately to prevent complications. Quinsy tonsillectomy could be safe and should be considered in patients who will undergo anesthesia for abscess drainage. The final decision should be made for each patient on an individual basis.

Keywords: *peritonsillar abscess; tonsillectomy; pediatrics; case report.*

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INTRODUCTION

Odynophagia accounts for 1.3% of all outpatient consultations to the Emergency Department.¹ In cases of bacterial pharyngotonsillitis, peritonsillar abscess is the most common complication; 45 000 cases per year are reported in the United States.² Bilateral involvement is very rare and is even rarer in the pediatric population.

Warning signs include worsening of odynophagia and dysphagia, trismus, ptialism, and guttural voice. On physical examination, unlike the unilateral presentation, asymmetry may not be present when examining the throat.³ For this reason, ancillary tests, such as computed tomography (CT) and/or ultrasound scans, are useful for diagnosis and management planning. The sensitivity and specificity of the neck CT with contrast are 100% and 75%, respectively.⁴

Drainage methods vary, and the appropriate approach for definitive management is still controversial. Treatment options include antibiotics and corticosteroids, needle aspiration, drainage, and tonsillectomy. The option of performing tonsillectomy at the same surgical time (quinsy tonsillectomy) versus interval tonsillectomy has also been discussed.^{3,5}

Some studies have reported the presence of unsuspected contralateral peritonsillar abscess identified during tonsillectomy; however, to our knowledge, this is the first case report of a quinsy tonsillectomy for the resolution of a bilateral peritonsillar abscess in the pediatric population.

CASE REPORT

This was a 14-year-old male patient with no relevant medical history who consulted due to odynophagia and trismus for the past 10 days in association with fever in the first 72 hours. After 7 days, he attended another institution. A rapid antigen test to detect beta-hemolytic *Streptococcus* and a mononucleosis test were performed; both were reported as negative. It was assumed to be a viral infection. Due to persistent clinical symptoms, he sought consultation again. Laboratory tests evidenced leukocytosis (18 920 cells/mm³), elevated erythrocyte sedimentation rate and a positive CRP. He was prescribed ceftriaxone 2 g/day and intramuscular dexamethasone.

A craniofacial and neck CT scan with IV contrast was ordered at 48 hours due to severe odynophagia, and he was referred to our hospital.

On physical examination, he had bilateral tonsillar hypertrophy, both convex arches, and soft palate and uvular edema.

The CT showed bilateral tonsillar hypertrophy with heterogeneous post-contrast enhancement; right tonsil with a collection of 43 × 25 × 23 mm and the left tonsil with a collection of 27 × 24 × 16 mm; soft tissue edema with moderate stenosis of the pharyngeal lumen; and multiple jugular-carotid and submandibular lymph nodes on both tonsils. Diagnostic impression: bilateral tonsillar abscesses (*Figures 1 and 2*).

The patient was admitted for antibiotic (ampicillin/sulbactam 1000 mg/500 mg every 6 hours) and intravenous corticosteroid therapies, and surgical resolution. A bilateral tonsillectomy together with a bilateral abscess drainage were conducted. A fibroscope-guided orotracheal intubation was performed during surgery without complications (*Figure 3*). The patient had a favorable course with a significant symptom improvement; he was discharged 48 hours after surgery with the indications to complete the antibiotic therapy regimen.

DISCUSSION

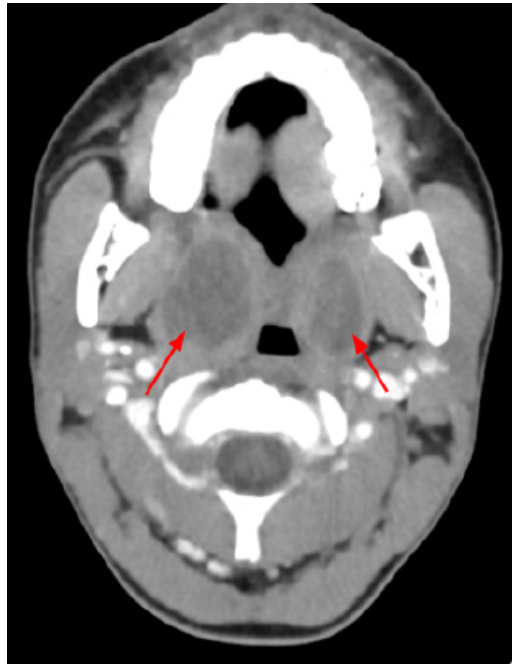
Peritonsillar abscess is the most common complication of bacterial tonsillitis. The incidence of bilateral peritonsillar abscesses is unknown; however, rates ranging from 1.9% to 24% have been reported in quinsy tonsillectomy, where an unsuspected contralateral abscess may be identified during the procedure. It is believed that this may be due to different evolutionary stages of abscesses in both peritonsillar spaces.⁶

Diagnosis is basically based on clinical signs. In these cases, difficulties may arise due to the lack of typical asymmetry found when examining the throat of a patient with a unilateral abscess, even while performing a fibrolaryngoscopy. This calls for a high level of suspicion and the need to rely on other diagnostic methods.²

Although, in some cases, CT is not obtained when the abscess is clinically evident, it is useful when a complete physical examination is not possible, when the diagnosis is ambiguous or when complications are suspected.

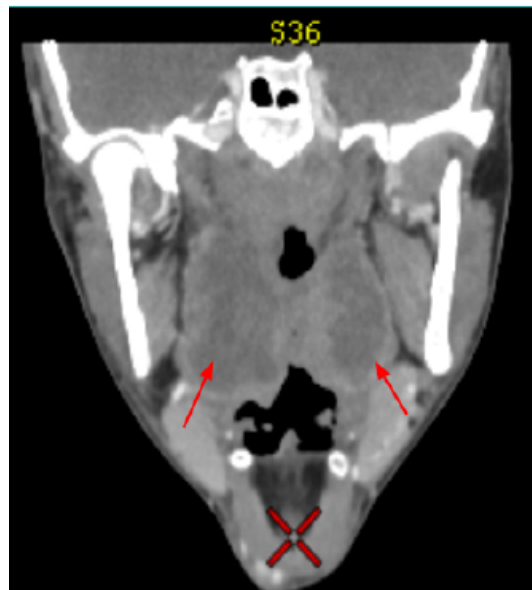
However, it is critical to note that, although a neck CT with contrast is 100% sensitive and 75% specific for peritonsillar abscesses, false positive results are possible given the challenge of distinguishing between an abscess and a gumboil. Therefore, caution is needed when using CT to aid in diagnosis.⁴

FIGURE 1. Computed tomography of the face, skull, and neck. Axial section



Arrows: bilateral peritonsillar abscesses.

FIGURE 2. Computed tomography of the face, skull, and neck. Coronal section

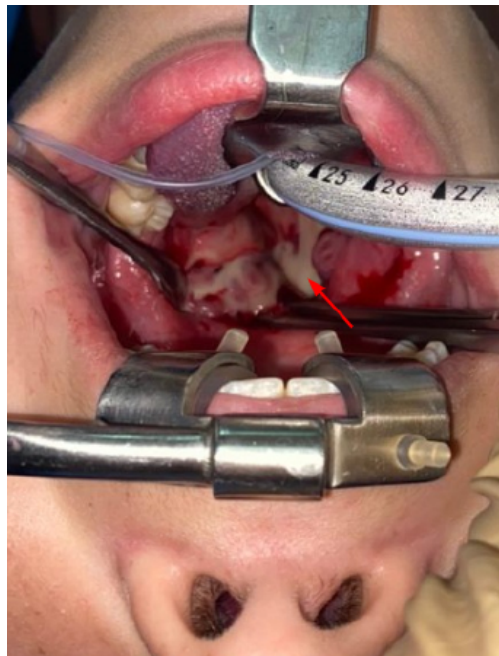


Arrows: bilateral peritonsillar abscesses.

At present, intraoral and transcutaneous ultrasound are increasingly used. The latter is easier to perform and well tolerated in children. It is a cost-effective non-invasive study, although it is operator-dependent and may not be the test of choice to rule out spread to deep neck spaces

(parapharyngeal/retropharyngeal).⁷

Based on the evidence, a reasonable approach is to use physical examination as the primary diagnostic technique. If there are doubts due to the lack of asymmetry or suspicion regarding its spread, a CT would be a viable option.⁵

FIGURE 3. Intubation and abscess drainage

Red arrow: abundant drained purulent material.

Early diagnosis and management are critical to prevent spread to deep neck spaces and consequently to the mediastinum and base of the skull. If management is delayed, severe upper airway obstruction due to laryngeal edema may develop.

It is worth mentioning that these patients may develop airway compromise during the course of their condition and, consequently, intubation may be hindered. It is mandatory to have a team of trained anesthesiologists, especially during anesthetic induction.⁸

Management consists of antibiotic therapy, corticosteroids, puncture, and surgical drainage and/or tonsillectomy. There is still controversy regarding surgical management and its timing.⁸

The options include interval tonsillectomy, performed once the acute condition resolves, or quinsy tonsillectomy, performed in the context of the acute infection.

Most children do not tolerate undergoing a drainage in the physician's office, so it is necessary to carry out the procedure under general anesthesia in the operating room. This is why the bibliography supports performing a tonsillectomy at the same surgical time because it has low complication rates and would prevent future events by ensuring complete drainage with immediate relief of pain and trismus. It may

be said that, if a young child has to undergo anesthesia, the surgeon should perform the more definitive procedure.^{5,6}

The possibility of discovering a subclinical contralateral abscess is an additional indication to do a quinsy tonsillectomy. Many investigators have even found that a quinsy tonsillectomy is easier to perform than an elective one because the abscess partially dissects the tonsil from the surrounding tissue and makes it easier to find the peritonsillar plane, unlike the fibrosis found during interval tonsillectomy.^{3,9}

In a systematic review and meta-analysis, different authors have stated that they opt for a quinsy tonsillectomy as the first line of treatment. They have not found statistically significant differences in terms of bleeding rates (4.7% for quinsy tonsillectomy versus 5.4% for interval tonsillectomy) or surgery duration. In addition, a quinsy tonsillectomy entails a shorter length of hospital stay because the patient undergoes the incision and tonsillectomy in the same hospitalization, in contrast to the interval tonsillectomy that requires 2 hospital admissions.^{3,9}

Lehnerdt conducted a retrospective study that compared both procedures with an age- and sex-matched group in both pediatric and adult populations.¹⁰

In the group of tonsillectomy with unilateral abscess, 8% had post-operative bleeding versus 11.6% in the elective tonsillectomy group. In both groups, bleeding developed after 24 hours: between post-operative day 5 and 6. In relation to age, the results showed a strong trend toward a lower risk of bleeding in patients younger than 16 years compared to young adults.

They concluded that a tonsillectomy due to an abscess has advantages over an elective tonsillectomy: it immediately improves symptoms and prevents the complications of an incomplete drainage, the possibility of spread to other spaces, and its recurrence. In addition, it is not necessarily associated with a higher rate of bleeding compared to elective tonsillectomy.

CONCLUSIONS

Since a bilateral abscess may not present with the typical characteristics of a unilateral abscess, ear, nose, and throat specialists should always consider the possibility of an unsuspected contralateral abscess. It should be diagnosed and managed in a fast and adequate manner to prevent future complications.

Quinsy tonsillectomy may be a treatment option that should be considered in children who will go under anesthesia for abscess drainage. However, the final management decision should always be made for each specific patient. ■

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