



## **Bilateral Peritonsillar Abscesses: Relief of Upper Airway Obstruction by Quinsy Tonsillectomy**

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**Key words:** bilateral peritonsillar abscesses, quinsy tonsillectomy, tonsillitis

*IMAJ 2003;5:126-127*

Peritonsillar abscess is the most frequent complication of acute tonsillitis and occurs when the infection spreads outside the tonsillar capsule. It is usually situated in the region of the upper pole and involves the soft palate pushing the tonsils forwards and towards the midline. This condition is usually unilateral and mostly affects young male adults [1]. Early diagnosis, with drainage of the abscess, is crucial to prevent perforation into the parapharyngeal space and further spread along the neck vessels to the mediastinum and skull base. Possible aspiration and severe upper airway obstruction may develop if treatment is delayed.

We present a young patient who presented with an unusual manifestation of bilateral peritonsillar abscesses imitating bilateral hypertrophy of the tonsils, causing severe upper airway obstruction.

### **Patient Description**

A 12 year old girl was admitted after 5 days of suffering from a sore throat. She had had recurrent episodes of tonsillitis for the previous 5 years. Three days prior to admission she was seen by her pediatrician because of a sore throat, difficulty in eating, elevated temperature, and bilateral redness and hypertrophy of the tonsils. Despite oral amoxicillin her symptoms worsened in the 24 hours preceding admission, with difficult breathing and a temperature of 40°C.

Examination on admission showed a child in marked respiratory distress, with dysphagia and drooling, and 'hot potato'

voice without trismus. Physical examination revealed huge kissing tonsils, without any exudates, and edema of the uvula but no bulging of the soft palate. The rest of the physical examination was within normal limits. Laboratory tests showed hemoglobin values of 12.5 mg/dl, white blood cell count of 19,200/cm with 66% neutrophils and 21% lymphocytes, and negative results for Epstein-Barr virus antigens. The patient was given parenteral ampicillin, 200 mg/kg/day.

Respiratory monitoring during sleep revealed episodes of sleep apnea, bradycardia up to 45 pulses per minute, and oxygen saturation level reduced to as low as 74-76%. Her body temperature decreased and her respiration improved with fewer apneic episodes. Despite this improvement in her physical condition, she was taken to surgery and a "hot" tonsillectomy was performed to relieve the severe upper airway obstruction.

Surprisingly enough, large abscess cavities were found behind both tonsils with 10 ml of purulent, foul-smelling pus draining out of each peritonsillar abscess. It has to be stressed that the procedure was easy to perform because the abscesses were dissected and the tonsils separated from the tonsillar fossa. Tonsil and pus cultures showed growth of beta-hemolytic streptococci group A. The postoperative course was uneventful.

### **Comment**

Peritonsillar abscess chiefly affects young adults. Both an even and a 2:1 male to

female ratio have been described. Peritonsillar abscess occurs mainly in the winter with another peak in June-July or in April May [2]. Many patients with peritonsillar abscess have previously suffered from tonsillitis, peritonsillitis, or peritonsillar abscess, which are stages of the same disease.

Exudative tonsillitis is the initial step, followed by peritonsillar erythema and edema (peritonsillar cellulitis) and then formation of micro-abscesses within the tonsillar crypts. The disease develops by coalescence of the pus within the tonsillar capsule. Suppuration outside the tonsils, in the peritonsillar fossa, will create the peritonsillar abscess. As tonsillitis is an infection of both tonsils, it is probable that progression to peritonsillar abscess can also occur bilaterally, with different timing of the developmental stages on each side. With this pathophysiology in mind, it is easy to imagine that bilateral peritonsillar abscess may occur in cases where there is a delay in diagnosis and treatment.

Adequate antibiotic treatment and incision and drainage of the obvious abscess probably prevent the development of the contralateral peritonsillar abscess by halting the infectious process [1]. Although the literature on bilateral peritonsillar abscesses is scattered, their occurrence was recognized in several series reporting quinsy (hot) tonsillectomies. The overall incidence of bilateral peritonsillar abscesses, with the unsuspected contralateral abscess being discovered during surgery, is

1.9–24.1% [1]. In all cases in all the series of bilateral peritonsillar abscesses the overall incidence was 4.9% [3]. While in all previous reports there was one unsuspected peritonsillar abscess, we did not suspect any abscess and were surprised to find bilateral abscesses.

Sore throats, odynophagia, dysphagia, trismus, oral drooling and high fever are among the most common symptoms of peritonsillar abscess. Sleep apnea and upper airway obstruction due to bilateral abscesses were reported by Lam [4]. Adenotonsillar hypertrophy is the most common cause of upper airway obstruction in children. In recent years, there has been a dramatic rise in obstructive sleep apnea as an indication for tonsillectomy and adenoidectomy [5]. Both our patient and Lam's underwent immediate tonsillectomy. While Lam knew from prior aspiration that there were bilateral abscesses, we recog-

nized the existence of the abscesses during the operation. Neither case evoked any treatment problems.

The usual treatment of unilateral peritonsillar abscess, without the signs of upper airway obstruction, is still under debate. Those who favor tonsillectomy, either "hot" or later on, cite the need to prevent a recurrent abscess. Those who favor only incision and drainage, or needle aspiration, will claim that the recurrence rate is low and insignificant [2]. The advantages of immediate tonsillectomy are total evacuation of the pus, exposure of an unsuspected contralateral abscess, and prompt relief of trismus and pain. It is a one-stage curative treatment that is technically simple to perform and will prevent further possible tonsillitis. The only disadvantage is the difficulty in performing intubation due to the edema of the pharynx [1].

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