

Bilateral peritonsillar abscess: A rare emergency

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Abstract

Peritonsillar abscess, or quinsy, is a rare complication of acute tonsillitis. It usually presents with odynophagia, trismus, and muffled voice, reflecting the space-occupying lesion in the oral cavity. Examination reveals a unilateral swelling on either side of the soft palate, which drains thick pus after an incision is made. It is regarded as an emergency as an upper airway obstruction can develop. Bilateral peritonsillar abscess is a rare presentation and results in catastrophic sequelae. We present a case of bilateral peritonsillar abscess that was initially referred by a primary care centre facing a dilemma in diagnosis. Prompt diagnosis and fast drainage are warranted to avoid unwanted morbidity, and, also, mortality.

Introduction:

Peritonsillar abscess is one of the most common deep neck space infections. Tonsillitis, peritonsillar cellulitis, and peritonsillar abscess represent the spectrum of disease progression from the mildest to most severe form. Unilateral peritonsillar abscess is relatively common, but bilateral involvement is rare.¹⁻³ The incidence of peritonsillar abscess in the United States and Puerto Rico among patients 5 to 59 years of age was reported to be 30.1 per 100,000 person years.⁴ The actual frequency of bilateral peritonsillar abscess is unknown; however, the rate has been reported to vary from 1.9% to 24% in cases of quinsy tonsillectomy.¹

Case Summary

A 25-year-old, previously healthy man presented with a sore throat that he had had for a duration of five days. He also had an intermittent high-grade fever with chills and rigors. He had voice changes, odynophagia, and dysphagia for three days. He also started to develop difficulty breathing when lying in a supine position on the day of his presentation. There was no history of foreign body ingestion. Otherwise, he had no neck swelling or limited neck movement. It was also noted that he was an active smoker with a seven pack-year history. Examination documented his temperature as 38°C along with other normal parameters. His hydration status was fair.

He had a muffled voice but no stridor. He also had a limited ability to open his mouth due to trismus. The bilateral peritonsillar areas were bulging with overlying congested mucosa. The

uvula was centrally located (**Figure 1**). There was no swelling over the posterior pharyngeal wall.



Figure 1: Bilateral peritonsillar areas were bulging with centrally located uvula (arrowhead) and pus discharge over left peritonsillar area (arrow).

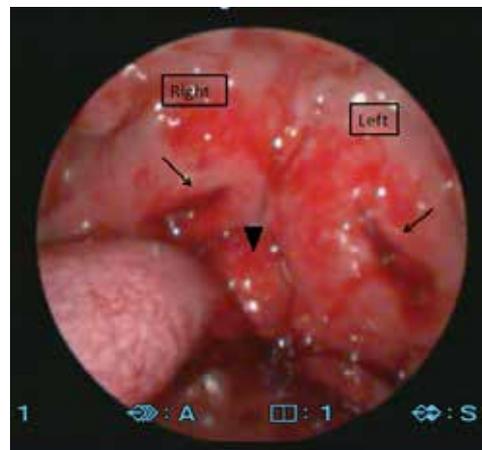


Figure 2: Incision (arrow) and drainage were done over the bilateral peritonsillar area. Uvula (arrowhead) was centrally located.

The provisional diagnosis of bilateral peritonsillar abscess was made. Aspiration of the bilateral peritonsillar area at the most bulged sites revealed purulent material that confirmed the diagnosis. Incision and drainage of the bilateral peritonsillar abscess was performed (**Figure 2**).

The right side drained 10cc of pus, and 20cc of pus was evacuated from the left peritonsillar area. The patient was started on intravenous amoxicillin/clavulanic acid, and he responded well. He was discharged after three days of parenteral antibiotics. Oral antibiotics were continued for one week at home. Reassessment after one week showed that the patient had made a full recovery.

Discussion

Peritonsillar abscess, also known as quinsy, is a common complication of tonsillitis. It is one of the most common deep space infections of the head and neck. This condition can occur in all age groups, but the highest incidence is observed in adults aged 20 to 40 years old.⁵ Sowerby et al. reported an incidence of 12.4 per 100,000 people in London 2009.⁶ Peritonsillar abscess is one of the stages of disease progression that begins with tonsillitis and peritonsillar cellulitis. Peritonsillar abscess begins with suppuration over the space between the tonsillar capsule and superior pharyngeal constrictor muscle. Unilateral peritonsillar space involvement is almost pathognomonic of the disease.

In contrast, bilateral peritonsillar abscess is a rare event. Few cases have been reported. Kessler et al. reported an incidence rate of 4.9% in his series.⁷ The rates vary from 1.9% to 24% in reports describing abscess tonsillectomy in which unsuspected contralateral abscess was discovered intraoperatively.² The low incidence of bilateral peritonsillar abscess could be due to early diagnosis and treatment before progression to the contralateral site, treatment with antibiotics, or underreporting.

The diagnosis of peritonsillar abscess is usually made by clinical observation. Besides muffled voice, odynophagia, fever, and trismus, unilateral peritonsillar abscess shows classical presentations of a deviated uvula and unilateral peritonsillar bulging. In bilateral peritonsillar abscess, lack of these typical clinical features can create a dilemma for less experienced medical personnel during the differential diagnosis.

The diagnosis should be considered in a very ill patient with similar symptoms and clinical findings of a centrally pushed forward uvula with bilateral peritonsillar swelling.³ Intraoral ultrasonography can be used to confirm the diagnosis.⁸ In addition, contrast-enhanced CT is also helpful in confirming a diagnosis of bilateral peritonsillar abscess. A CT scan can help differentiate peritonsillar abscess from other diseases, such as lymphoma or severe acute tonsillitis, and also rule out complications that include extension of the abscess into deep neck spaces.² Additionally, a CT scan is generally used to guide the drainage in an atypical presentation, such as in an inferior pole abscess or in cases where there is high risk of complication during the drainage procedure, such as in patients with bleeding disorders. Grant et al. reported in a retrospective case-control study that the use of a CT scan is not associated with a difference in intervention in children with peritonsillar abscesses, but it is associated with a significant delay in treatment (time to otolaryngology consultation, time to admission, and time to bedside procedure).⁹ In the present case, based on the clinical features, aspiration over the bilateral peritonsillar area was performed and revealed the presence of pus, which confirmed the diagnosis. Without further imaging or delay, the patient went on to have a bedside incision and drainage of the peritonsillar abscess.

Treatment of a peritonsillar abscess remains controversial. It mainly consists of intravenous antibiotics with drainage of the abscess using needle aspiration, incision and drainage, or abscess tonsillectomy. There is no agreement on the optimal technique for the initial drainage of a peritonsillar abscess.^{4,10} Needle aspiration may potentially be less painful, cheaper, and technically easier to perform. Incision and drainage results in more efficient drainage of the abscess due to dissection of the tissue barriers that separate the abscess cavity into micro-loculations. However, it is a more invasive method that carries a higher risk of injury to underlying structures and may also cause aspiration of purulent material. A comparative study by Khan et al. involving 56 subjects concluded that incision and drainage for peritonsillar abscess was superior to needle aspiration in terms of hospital stay and abscess recurrence, whereas needle aspiration was superior in terms of post-operative pain.¹¹ A national audit of the management of peritonsillar abscess by Mehanna et al. stated that all cases of peritonsillar abscess should be

started on antibiotics, but that the drainage method varies depending on differences in training or surgeon preference.¹² Both needle aspiration and incision followed by drainage are highly curative. Resistance to existing treatments may prompt clinicians to proceed to more invasive treatments, such as abscess tonsillectomy.

In our case, needle aspiration was used for diagnostic purposes, while definitive treatment was carried out by incision and drainage with concurrent administration of intravenous antibiotics. Both procedures were done under local anaesthesia as an office procedure. Needle aspiration uses large-bore needles inserted through the palatoglossus muscles into the abscess. Several insertions of the needle in different locations may be performed during a single treatment episode. The incision and drainage method uses a guarded scalpel to incise the palatoglossus muscle and enter the peritonsillar space/abscess. The peritonsillar space is then opened widely by dissection with blunt forceps to promote drainage of the abscess. Mehanna et al. stated that almost all peritonsillar abscess patients (up to 94%) are managed as in-patients and that most patients require two-day admissions.¹² Lin and Lee recommend the use of the same needle aspiration technique used in unilateral peritonsillar abscess treatment for treating bilateral disease; however, a period of close observation is vital after the procedure since the risk of complication in bilateral disease is higher.² Repeated aspiration, incision and drainage, or a tonsillectomy can be performed if there is no improvement after the first attempt at aspiration. Quinsy tonsillectomy is also indicated for those cases with a compromised airway.²

Bilateral peritonsillar abscess carries a greater risk of causing airway obstruction compared to unilateral abscess since the space occupied by the abscess is larger in the bilateral case. In addition, the risk of suppuration extending to deeper neck compartments is increased. It is believed that bilateral peritonsillar abscess carries an increased risk of complication compared to unilateral abscess given its late presentation, as well as the more extensive involvement of the pharyngeal area. Rapid diagnosis, followed by adequate treatment is of utmost importance in preventing respiratory obstruction and its complications. Perforation of the abscess into the parapharyngeal space can lead to the spread of infection along the neck

vessels to the mediastinum and skull base.²

Tobacco smoking is a known risk factor for peritonsillar abscess. A study by Klug TE showed that smokers had an approximately 150% increased risk of peritonsillar abscess compared to non-smokers.¹³ Sixteen percent of peritonsillar abscess cases could potentially be avoided if everyone ceased smoking.¹³ Male predominance is reported in 42 of 48 studies of peritonsillar abscess.¹³ This can perhaps be explained by the higher smoking frequency in men compared to women. History of recurrent tonsillitis is also believed to be one of the risk factors for peritonsillar abscess. Ten to seventy-nine percent of peritonsillar abscess patients were reported to have a history of tonsillar disease. However, there is no solid statistical evidence for an association between peritonsillar abscess and recurrent tonsillitis as previous studies lacked the appropriate definition of recurrent tonsillitis or no definition of recurrent tonsillitis was given by some of the authors.¹³

As peritonsillar abscess is at the end of the spectrum of disease that starts with acute tonsillitis, early initiation of antibiotics can prevent deterioration of the disease and progression into abscess formation.¹⁴ Tonsillectomy is also performed in cases of recurrent tonsillitis or recurrent peritonsillar abscess to prevent future episodes. General practice plays a major role in referring cases of recurrent tonsillitis to otolaryngologists for tonsillectomy, which can reduce the incidence of peritonsillar abscess. Quitting smoking is also believed to reduce the incidence of peritonsillar abscess since there is a strong association between tobacco use and peritonsillar abscess formation.¹³

Conclusion

Awareness of this rare presentation of peritonsillar abscess can prevent the delay of the precise final diagnosis and treatment, which is of utmost importance in avoiding life-threatening complications. Radiological imaging can help in the diagnosis if clinical features are ambiguous.

Conflict of Interest

All authors had no conflict of interest in this study.

References

1. Fasano CJ, Chudnofsky C, Vanderbeek P. Bilateral Peritonsillar Abscesses: Not Your Usual Sore Throat. *J Emerg Med.* 2005 Jul; 29(1):45-7.
2. Lin YY, Lee JC. Bilateral Peritonsillar Abscesses Complicating Acute Tonsillitis. *CMAJ.* 2011 Aug 9;183(11):1276-9. doi:10.1503/cmaj.100066.Epub 2011 May 16.
3. Jenny L, Sakina MS, Salina H. Bilateral Peritonsillar Abscess: A Rare Variant. *Rawal Med J.* 2009;34(2): 236-7.
4. Herzon FS, Harris P. Moshier Award Thesis. Peritonsillar Abscess: Incidence, Current Management Practices, and a Proposal for Treatment Guidelines. *Laryngoscope.* 1995 Aug; 105(8 Pt 3 Suppl 74):1-17.
5. Galioto NJ. Peritonsillar Abscess. *Am Fam Physician.* 2008 Jan 15;77(2):199-202.
6. Sowerby LJ, Hussain Z, Husein M. The Epidemiology, Antibiotic Resistance and Post-Discharge Course of Peritonsillar Abscess in London, Ontario. *J Otolaryngol Head Neck Surg.* 2013 Jan 31;42:5. doi:10.1186/1916-0216-42-5.
7. Kessler A, Lapinsky J, Segal S, et al. Bilateral Peritonsillar Abscesses: Relief of Upper Airway Obstruction by Quinsy Tonsillectomy. *Isr Med Assoc J.* 2003 Feb;5(2):126-7.
8. Lyon M, Glisson P, Blaivas M. Bilateral Peritonsillar Abscess Diagnosed on the Basis of Intraoral Sonography. *J Ultrasound Med.* 2003 Sep;22(9):993-6.
9. Grant MC, Guarisco JL. Association Between Computed Tomographic Scan and Timing and Treatment of Peritonsillar Abscess in Children. *JAMA Otolaryngol Head Neck Surg.* 2016 Nov 1;142(11):1051-1055. doi:10.1001/jamaoto.2016.2035.
10. Johnson RF, Stewart MG. The Contemporary Approach to Diagnosis and Management of Peritonsillar Abscess. *Curr Opin in Otolaryngol Head Neck Surg.* 2005 Jun;13(3):157-60.
11. Khan MI, Iqbal K, Muhammad. Peritonsillar Abscess: Comparison of the Outcome of Incision and Drainage Versus Needle Aspiration. *Gomal J Med Sci.* 2012;10:205-8.
12. Mehanna HM, Al-Bahnasawi L, White A. National Audit of the Management of Peritonsillar Abscess. *Postgrad Med J.* 2002 Sep;78(923):545-8.
13. Klug TE. Peritonsillar Abscess: Clinical Aspects of Microbiology, Risk Factors, and the Association with Parapharyngeal Abscess. *Dan Med J.* 2017 Mar;64(3).pii: B5333.
14. Klug TE, Rusan M, Fuursted K, Ovesen T. Peritonsillar Abscess: Complication of Acute Tonsillitis or Weber's Glands Infection? *Otolaryngol Head Neck Surg.* 2016 Aug;155(2):199-207. doi: 10.1177/0194599816639551.Epub 2016 Mar 29.