



Peritonsillar Abscess: Diagnosis, Treatment, and Prevention of Complications-An Updated Review for Healthcare Professionals.

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Abstract

Background: Peritonsillar abscess, also known as quinsy, is the most common deep neck space infection and may cause severe throat pain, dysphagia, dehydration, airway compromise, and extension into adjacent cervical spaces.

Aim: This article reviews etiology, epidemiology, pathophysiology, clinical presentation, diagnostic evaluation, management, prognosis, and complications of peritonsillar abscess.

Methods: A narrative review was prepared using established clinical literature concerning peritonsillar infection, emergency airway assessment, laboratory evaluation, imaging, antimicrobial therapy, procedural drainage, and otorhinolaryngology management.

Results: Peritonsillar abscess usually develops after acute tonsillitis or pharyngitis when polymicrobial infection extends into the peritonsillar space. Common manifestations include unilateral throat pain, fever, odynophagia, dysphagia, drooling, trismus, muffled voice, tonsillar displacement, and uvular deviation. Diagnosis is frequently clinical, while ultrasonography and contrast-enhanced computed tomography are useful when the diagnosis is uncertain, drainage is planned, or deep neck extension is suspected. Management begins with airway assessment, analgesia, hydration, and antimicrobial therapy targeting streptococci and oral anaerobes. Needle aspiration, incision and drainage, or selected tonsillectomy may be required depending on abscess characteristics, symptom severity, recurrence, and accessibility. Most patients recover within several days after timely treatment. However, delayed intervention may result in airway obstruction, aspiration, parapharyngeal spread, mediastinitis, vascular injury, septic thrombophlebitis, or sepsis.

Conclusion: Peritonsillar abscess requires prompt recognition and coordinated multidisciplinary care. Early airway evaluation, appropriate imaging, antimicrobial treatment, drainage when indicated, and close follow-up are essential to prevent serious complications and optimize recovery.

Key words: Peritonsillar abscess, quinsy, tonsillitis, deep neck infection, airway obstruction, drainage, otorhinolaryngology.

Introduction

Peritonsillar abscess, traditionally referred to as *quinsy*, is a significant suppurative infection of the upper airway and is widely recognized as the most common deep neck space infection in both adult and pediatric populations. Its clinical importance arises not only from its frequency but also from its potential to progress rapidly, compromise the upper airway, impair swallowing, and spread into deeper cervical fascial spaces. In children, peritonsillar abscess constitutes nearly half of all deep neck space infections, highlighting its relevance to emergency medicine, otorhinolaryngology, nursing practice,

infection control, and inpatient clinical management [1][2]. The condition is characterized by accumulation of purulent material in the peritonsillar space, which is a potential anatomical space adjacent to the palatine tonsil. This compartment is bounded medially by the fibrous capsule of the palatine tonsil, which forms part of the pharyngobasilar fascia. Laterally, it is related to the superior pharyngeal constrictor muscle, while the palatopharyngeus muscle forms its posterior boundary and the palatoglossus muscle forms its anterior boundary. Superiorly, the anatomical relationship includes the torus of the Eustachian tube, whereas the pyriform sinus of the hypopharynx lies inferiorly

[3][4][5]. Understanding these anatomical relationships is essential because they explain the characteristic local symptoms and the pathways through which infection may extend.

The peritonsillar space contains loose areolar connective tissue, which allows inflammatory fluid and purulent material to accumulate and facilitates rapid propagation of infection. If untreated or inadequately managed, infection may spread beyond the tonsillar region to the soft palate, base of the tongue, parapharyngeal space, retropharyngeal space, and other deep cervical compartments. Such extension can produce serious complications, including airway obstruction, aspiration, mediastinal spread, sepsis, vascular involvement, and intracranial infection. The possibility of rapid progression makes early assessment particularly important in patients presenting with severe unilateral throat pain, fever, dysphagia, odynophagia, trismus, muffled voice, drooling, or neck swelling. Although peritonsillar abscess commonly develops as a complication of acute tonsillitis, it may also occur through infection of minor salivary glands located in the supratonsillar region. Effective clinical care requires prompt recognition, airway assessment, appropriate antimicrobial treatment, drainage when indicated, pain control, hydration, and close monitoring for complications. A multidisciplinary approach involving emergency clinicians, nurses, otorhinolaryngology specialists, laboratory professionals, infection-control teams, and social-support services can improve timely diagnosis, continuity of care, and patient outcomes [3][4][5].

Etiology

The precise etiology of peritonsillar abscess remains incompletely defined; however, the condition is generally believed to develop through extension of infection from the tonsillar region into the peritonsillar space. Most cases occur following acute pharyngitis or tonsillitis, particularly when local inflammation progresses beyond the tonsillar capsule. Initially, inflammatory edema and cellulitis may develop in the tissues surrounding the palatine tonsil, producing a peritonsillar phlegmon. If bacterial proliferation continues and local host defenses are insufficient, purulent material accumulates within the peritonsillar space, resulting in formation of a clinically evident abscess. One proposed mechanism involves infection of the minor salivary glands of Weber, which are located near the superior pole of the palatine tonsil. These glands drain through small ducts into the tonsillar region and may become obstructed during upper respiratory tract infection or inflammation. Obstruction can impair normal secretion drainage, promote bacterial growth, and create a favorable environment for abscess formation. Another anatomical source may be the crypta magna, a large tonsillar cleft near the superior pole that represents a remnant of the second pharyngeal pouch. Infection

originating in this deep tonsillar crypt may extend through the tonsillar capsule and reach the surrounding peritonsillar tissues [6].

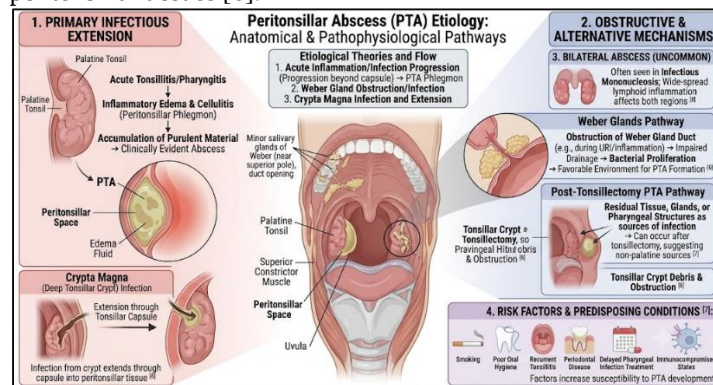


Fig. 1: Etiology of Peritonsillar Abscess.

An alternative explanation emphasizes capsular inflammation, tissue necrosis, and impaired drainage of the Weber glands. This theory is supported by reports of peritonsillar abscess occurring in individuals who have undergone tonsillectomy, suggesting that infection can arise from residual tonsillar tissue, salivary glands, or adjacent pharyngeal structures rather than exclusively from the palatine tonsil itself [7]. These observations demonstrate that the condition may result from several overlapping anatomical and infectious mechanisms. Peritonsillar abscess is usually unilateral and commonly develops after an episode of inadequately resolved bacterial tonsillitis or pharyngitis. The condition may evolve over several days, with increasing throat pain, fever, trismus, dysphagia, muffled voice, and swelling of the soft palate. Bilateral abscess formation is uncommon but may occur in selected circumstances, including infectious mononucleosis, where widespread lymphoid inflammation may affect both tonsillar regions [8]. Factors such as smoking, poor oral hygiene, recurrent tonsillitis, periodontal disease, delayed treatment of pharyngeal infection, and immunocompromised states may further increase susceptibility. Recognition of these etiological pathways is important for timely diagnosis, appropriate antimicrobial selection, drainage planning, and prevention of recurrent disease [7].

Epidemiology

Peritonsillar abscess is among the most frequently encountered deep neck space infections and represents an important cause of urgent otorhinolaryngology and emergency department evaluation. Although it may occur at any age, the condition is most commonly observed in adolescents and young adults. The highest incidence is generally reported between 15 and 35 years of age, an age group in which acute tonsillitis, recurrent pharyngeal infection, exposure to respiratory pathogens, smoking, and certain behavioral or environmental risk factors may be more common [9][10][11]. This distribution distinguishes peritonsillar abscess from some other

deep neck infections, which occur more frequently in younger children or older adults with significant comorbidities. The overall annual incidence among individuals aged 5 to 59 years has been estimated at approximately 14 to 30 cases per 100,000 population. However, the incidence may be substantially higher in adolescents, reaching approximately 167 cases per 100,000 individuals in some populations [12]. These findings emphasize that peritonsillar abscess is not a rare disease in clinical practice, particularly in emergency departments, primary healthcare facilities, otorhinolaryngology clinics, and hospitals serving younger populations. Variation in reported incidence may reflect differences in access to medical care, local patterns of antibiotic use, prevalence of recurrent tonsillitis, diagnostic methods, referral practices, and population characteristics. Sex distribution appears to vary according to age. Among children younger than 14 years, girls may be affected more often than boys. In contrast, among individuals older than 14 years, peritonsillar abscess is more frequently reported in males than females [9]. The reasons for this shift are not fully understood but may relate to changing exposure patterns, smoking prevalence, oral hygiene, occupational factors, and differences in healthcare-seeking behavior during adolescence and adulthood. Peritonsillar abscess is uncommon in children younger than five years of age. In this younger population, retropharyngeal abscess is more commonly encountered because retropharyngeal lymph nodes are relatively prominent and may become infected following upper respiratory tract illness [13][14]. Nevertheless, clinicians should remain alert to severe throat infection and airway symptoms in all age groups. Early recognition is particularly important because delayed diagnosis can allow infection to spread into adjacent deep neck spaces, increase the risk of airway compromise, and require more intensive medical or surgical intervention [13][14].

Pathophysiology

Peritonsillar abscess develops through progressive infection and inflammation involving the palatine tonsil, surrounding pharyngeal tissues, and peritonsillar space. The process commonly begins with acute tonsillitis or pharyngitis, during which bacterial organisms invade tonsillar crypts and produce localized mucosal inflammation. In some patients, the infection extends beyond the tonsillar capsule into the loose connective tissue of the peritonsillar space. This initially produces cellulitis or phlegmon, characterized by tissue edema, erythema, pain, and inflammatory infiltration without a defined collection of pus. Continued bacterial multiplication, impaired drainage, and tissue destruction may subsequently result in liquefaction necrosis and accumulation of purulent material, forming a peritonsillar abscess. The infection is typically polymicrobial, reflecting the diverse aerobic and anaerobic flora of the oral cavity and upper respiratory tract. Aerobic bacteria frequently isolated from

abscess cultures include *Streptococcus pyogenes* or group A streptococcus, *Streptococcus anginosus*, and beta-hemolytic *Staphylococcus aureus*, including methicillin-resistant strains in selected patients. Anaerobic organisms may include *Fusobacterium*, *Prevotella*, *Veillonella*, and *Haemophilus* species. The coexistence of aerobic and anaerobic organisms is clinically significant because antibiotic therapy must provide adequate coverage for both categories of pathogens [15][16]. Age-related variation in microbial patterns has also been reported. *Fusobacterium necrophorum* is particularly common among patients aged 15 to 24 years and has important clinical relevance because it may be associated with severe invasive infection, including Lemierre syndrome. In contrast, *Streptococcus pyogenes* is more frequently identified in other age groups [9][18][19][20][21]. The polymicrobial nature of the disease supports the use of antimicrobial regimens that cover streptococci, anaerobes, and other likely oropharyngeal organisms, particularly when systemic illness, deep neck extension, or treatment failure is suspected.

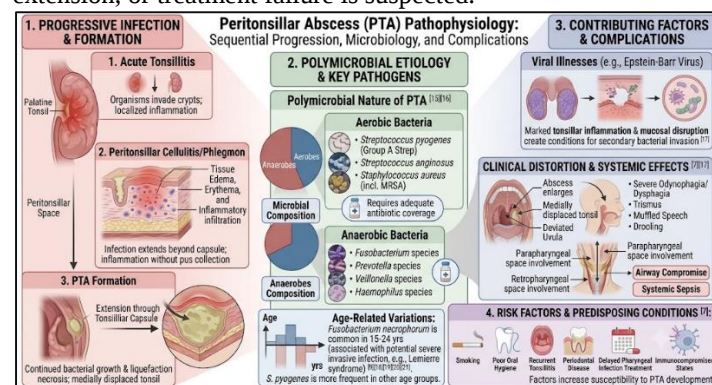


Fig. 2: Pathophysiology of Peritonsillar Abscess.

Although bacterial infection is the predominant mechanism, viral illnesses may contribute to abscess development. Epstein–Barr virus infection can cause marked tonsillar inflammation, lymphoid enlargement, and mucosal disruption, creating conditions that allow secondary bacterial invasion and abscess formation. In rare cases, peritonsillar abscess may occur without a preceding history of sore throat, indicating that infection may begin in the Weber glands, deep tonsillar crypts, or adjacent tissues rather than through clinically apparent tonsillitis [7][17]. As the abscess enlarges, it displaces the tonsil medially and the uvula toward the opposite side. Local inflammation produces severe odynophagia, dysphagia, trismus, muffled speech, drooling, and reduced oral intake. If infection extends beyond the peritonsillar space, it may involve the parapharyngeal or retropharyngeal spaces, compromise the airway, or produce systemic sepsis [7][17].

History and Physical

Peritonsillar abscess usually presents as an acute and progressively worsening infection of the oropharynx. The most common presenting complaint

is severe unilateral throat pain, although bilateral throat discomfort may occasionally occur. Pain is generally localized to the affected tonsillar region and may become increasingly intense over several days. Patients frequently report odynophagia, defined as painful swallowing, and dysphagia, which refers to difficulty swallowing. As inflammation and swelling increase, oral intake may become markedly reduced. In severe cases, patients cannot swallow their saliva effectively and may present with drooling, dehydration, reduced urine output, weakness, or poor nutritional intake. These features should be assessed carefully because they may indicate clinically significant obstruction, dehydration, or a need for urgent intravenous fluid therapy. Referred ear pain on the same side as the infection is also commonly reported. This ipsilateral otalgia may occur despite a normal otoscopic examination because sensory innervation of the oropharynx and ear shares neural pathways. Constitutional symptoms may include fever, chills, malaise, fatigue, myalgia, headache, and generalized discomfort [4]. Fever may be high in patients with a substantial bacterial burden or systemic inflammatory response, but its absence does not exclude peritonsillar abscess, especially in older adults, immunocompromised individuals, or patients who have already received antibiotics or antipyretic medication [2][23].

A recent history of acute pharyngitis or tonsillitis is common. Symptoms of upper respiratory tract infection, sore throat, fever, or tonsillar swelling frequently precede abscess formation by approximately three to five days. When unilateral throat pain has been present for fewer than three to five days, the process may still represent peritonsillar cellulitis or phlegmon rather than a well-formed abscess. Nevertheless, the rate of progression varies between individuals, and clinical assessment should not rely solely on symptom duration. Worsening pain, inability to swallow, voice alteration, trismus, and signs of airway compromise should prompt urgent evaluation regardless of the reported time course. As the collection enlarges, swelling of the soft palate and surrounding tissues may alter speech. Patients may develop the classic muffled, thick, hypernasal, or “hot potato” voice, which results from impaired movement of the soft palate and altered resonance within the oropharynx [22]. This finding is highly suggestive of a significant peritonsillar infection but should be interpreted with other clinical features. Neck pain and tenderness commonly occur because of reactive cervical lymphadenitis and inflammation of adjacent pharyngeal tissues. Some patients may report reduced neck movement, especially when discomfort extends into the upper cervical region. Trismus is another important clinical feature and occurs in a large proportion of affected patients. It results from inflammatory irritation and spasm of the pterygoid

muscles, which lie close to the superior pharyngeal constrictor muscle [2][23]. The severity of trismus can range from mild limitation of mouth opening to near-complete inability to open the mouth. Severe trismus may impede oral examination, reduce oral intake, complicate needle aspiration or incision and drainage, and increase the challenge of airway management. It should therefore be documented clearly during initial assessment and reassessed after analgesia, hydration, and treatment.

Physical examination typically reveals unilateral peritonsillar swelling, erythema, induration, and medial displacement of the affected tonsil. The overlying soft palate may appear swollen and tense. A characteristic finding is deviation of the uvula away from the affected side, although this sign is present in only approximately half of patients and may not be evident in early disease or bilateral involvement [1][24][25][26][27]. The tonsil may be pushed medially and inferiorly, while the anterior tonsillar pillar may appear prominent. Examination should also evaluate for asymmetry of the posterior pharyngeal wall, neck swelling, floor-of-mouth elevation, tongue displacement, dental infection, or signs suggesting extension into the parapharyngeal or retropharyngeal spaces. Tender cervical lymphadenopathy, particularly in the jugulodigastric region, is commonly present. Some patients may adopt a protective head position or develop torticollis, with the head tilted toward the affected side to reduce pain and muscle tension. Vital signs should be assessed for fever, tachycardia, hypotension, tachypnea, and oxygen desaturation, as these may indicate systemic infection or evolving airway compromise. A focused neurological and respiratory assessment is also important, particularly in patients with severe illness. Children may demonstrate similar symptoms but can be more difficult to assess because of limited cooperation, smaller airway dimensions, and difficulty describing pain or swallowing impairment [1]. Irritability, refusal to eat or drink, drooling, altered voice, neck stiffness, and reduced activity may be important clinical clues. In any patient with anxiety, significant drooling, tripod positioning, labored breathing, stridor, cyanosis, or signs of acute respiratory distress, airway stabilization must take precedence over detailed oropharyngeal examination. Repeated attempts to inspect the throat in an unstable patient may worsen agitation and airway obstruction. Prompt involvement of emergency, anesthetic, and otorhinolaryngology teams is essential when airway compromise is suspected [1][24][25][26][27].

Evaluation

Evaluation of suspected peritonsillar abscess should combine focused clinical assessment, appropriate laboratory testing, and imaging when the diagnosis is uncertain or when complications are suspected. In many patients, the diagnosis can be made

clinically from the typical combination of unilateral throat pain, fever, dysphagia, trismus, muffled voice, peritonsillar swelling, tonsillar displacement, and uvular deviation. Nevertheless, laboratory investigations are useful for assessing the severity of infections, identifying dehydration or systemic involvement, supporting microbiological diagnosis, and guiding antimicrobial therapy in complicated cases. A complete blood count with differential commonly demonstrates leukocytosis with neutrophil predominance, consistent with an acute bacterial inflammatory process. However, these findings are nonspecific and should not be used alone to confirm the diagnosis. A normal leukocyte count does not exclude peritonsillar abscess, particularly in immunocompromised patients, older adults, or individuals who have received prior antimicrobial treatment. A basic metabolic panel is particularly important in patients with poor oral intake, vomiting, drooling, prolonged fever, or clinical evidence of dehydration. Electrolyte imbalance, renal impairment, and reduced intravascular volume may influence decisions regarding intravenous fluid replacement, analgesia, antibiotic selection, and hospital admission [1][24][25][26][27].

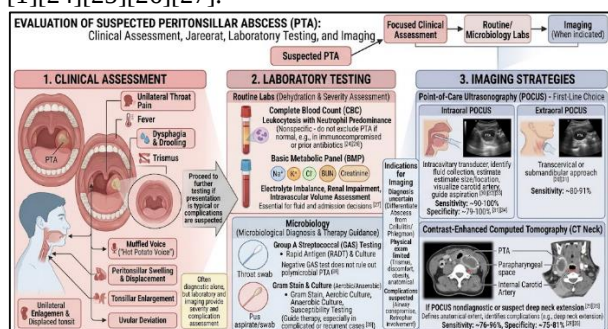


Fig. 3: Clinical Evaluation of Suspected Peritonsillar Abscess.

Testing for group A streptococcal infection may be appropriate when acute streptococcal pharyngitis is suspected. Rapid antigen detection testing provides timely results and may be supplemented by throat culture or molecular testing when necessary. However, a negative throat test does not rule out a peritonsillar abscess because the infection is often polymicrobial and located within deeper tissues rather than on the superficial pharyngeal mucosa. If needle aspiration or incision and drainage is performed, the aspirated material should be considered for Gram staining, aerobic culture, anaerobic culture, and antimicrobial susceptibility testing. Culture results are especially valuable for immunocompromised patients, individuals with recurrent disease, those with extensive infection, or patients who do not improve with empiric antimicrobial therapy [28]. Imaging is not always required when the clinical presentation is typical and the abscess is readily apparent on examination. However, imaging may improve diagnostic certainty and help distinguish a drainable abscess from

peritonsillar cellulitis or phlegmon. It is particularly helpful when physical examination is limited by severe trismus, patient discomfort, poor cooperation, obesity, anatomical variation, or inadequate visualization of the oropharynx. Imaging should also be strongly considered when there is concern for parapharyngeal abscess, retropharyngeal abscess, airway compromise, cervical vascular involvement, or spread into other deep neck spaces. A 2025 study comparing clinical and radiological diagnosis reported greater diagnostic accuracy with contrast-enhanced computed tomography, including when clinical assessment was undertaken by an otorhinolaryngologist [29].

Point-of-care ultrasonography is a valuable first-line imaging modality because it can rapidly identify a fluid collection, estimate abscess size and location, visualize the nearby carotid artery, guide real-time needle aspiration, and confirm reduction of the collection after drainage. Intraoral ultrasonography using an intracavitary transducer has reported sensitivity of approximately 90% to 100%, whereas extraoral transcervical or submandibular ultrasonography has reported sensitivity of approximately 80% to 91%. Specificity for both approaches ranges from 79% to 100% [30][31][32][33][34]. Ultrasound is particularly advantageous because it avoids ionizing radiation and can often be performed at the bedside. Contrast-enhanced computed tomography of the neck is often used when ultrasonography is nondiagnostic, the diagnosis remains equivocal, or a more extensive deep neck infection is suspected. CT can define the anatomical extent of infection, identify associated complications, and distinguish an abscess from phlegmon through the presence of a rim-enhancing fluid collection. Reported sensitivity ranges from 76% to 96%, with specificity of approximately 75% to 81% [29][35]. Despite its diagnostic value, CT involves radiation exposure, greater cost, and potentially longer time to diagnosis than point-of-care ultrasonography.

Treatment / Management

The management of peritonsillar abscess should be determined by the patient's clinical condition, airway status, severity of symptoms, extent of infection, and findings from ultrasonography or contrast-enhanced computed tomography when imaging is required [1]. The principal treatment objectives are to protect the airway, control infection, relieve pain, restore hydration, drain a confirmed collection when indicated, and prevent extension into adjacent deep neck spaces. Management should involve early collaboration among emergency clinicians, otorhinolaryngology specialists, nursing staff, anesthetic personnel when airway risk is present, and laboratory services where microbiological testing is needed. Airway assessment is the first and most important priority. Patients should be examined for signs of impending upper airway obstruction, including respiratory distress, stridor, inability to

manage secretions, marked drooling, tripod positioning, tachypnea, cyanosis, altered mental status, or severe swelling of the oropharynx. An ill-appearing patient with these features requires immediate stabilization before further diagnostic procedures or attempts at drainage. Early involvement of anesthetic and otorhinolaryngology teams is essential because airway intervention may be technically difficult in the presence of trismus, distorted anatomy, edema, and a deep neck infection [9][36][37]. Current pediatric emergency pathways similarly prioritize airway evaluation before drainage or other definitive measures [1].

Medical treatment includes analgesia, antimicrobial therapy, hydration, and selected use of corticosteroids. Pain control is important because severe odynophagia and trismus can prevent adequate examination, oral intake, and adherence to treatment. Nonsteroidal anti-inflammatory medications may be useful when clinically appropriate, while stronger analgesics may be required for severe pain. Antimicrobial therapy should be initiated promptly after the diagnosis is established clinically or radiologically. Antibiotic selection should provide coverage for group A streptococci, other common oral streptococci, and anaerobic organisms. The route of administration should reflect disease severity and the patient's ability to swallow. Intravenous treatment is generally appropriate for patients with systemic illness, dehydration, airway concern, severe trismus, inability to tolerate oral medication, or extension of infection. Transition to oral treatment can be considered once clinical improvement and adequate oral intake are established [38]. Antibiotic choice should be guided by local antimicrobial protocols, allergy history, culture findings when available, renal function, and risk factors for resistant organisms. Regimens commonly include a beta-lactam agent with anaerobic coverage or an appropriate alternative for patients with beta-lactam allergy. Additional coverage for methicillin-resistant *Staphylococcus aureus* should be reserved for patients with relevant clinical risk factors, microbiological evidence, severe disease, or inadequate response to standard therapy [26]. Drainage or aspiration remains central to treatment for most patients with a confirmed abscess, alongside antibiotics rather than as a replacement for them.

Intravenous fluid replacement is often necessary because pain, dysphagia, fever, and drooling commonly result in dehydration and poor oral intake [26][39]. Corticosteroids may be considered as adjunctive therapy to reduce inflammatory edema, pain, trismus, and time to clinical recovery. They may be particularly beneficial when swelling threatens airway patency, although their use should be individualized and monitored carefully [40]. Needle aspiration, incision and drainage, or surgical intervention should be performed by experienced

clinicians in an environment where airway support is immediately available. Ultrasound guidance can improve localization of the collection and help avoid injury to adjacent vascular structures. Hospital admission is appropriate for patients with airway concerns, sepsis, dehydration, deep neck extension, substantial comorbidity, immunocompromise, unsuccessful outpatient treatment, or inability to tolerate oral fluids and medication. Careful reassessment after treatment is essential to confirm symptomatic improvement, restoration of oral intake, and absence of progressive infection [26][39].

Surgical Management

Surgical management of peritonsillar abscess should be individualized according to the patient's age, clinical stability, airway status, ability to tolerate oral intake, abscess size and location, degree of trismus, response to medical treatment, and availability of specialist expertise. Procedural drainage is commonly performed early in patients with a clearly defined collection, significant symptoms, or inadequate response to antimicrobial therapy. However, initial medical management may be selected for carefully assessed patients with small abscesses, phlegmon, limited symptoms, or a low likelihood of airway compromise. Available evidence has not demonstrated a statistically significant overall difference in outcomes between medical and surgical approaches across all abscess sizes. Nevertheless, collections larger than 2 cm are less likely to resolve with medical treatment alone and may be more likely to benefit from drainage [41]. A 2022 study by Urban et al. identified a non-significant tendency toward higher treatment success with surgical drainage among patients with abscesses exceeding 2 cm in diameter. Importantly, both medical and procedural approaches showed reduced success rates as abscess size increased beyond this threshold [41]. These findings support an individualized decision-making process rather than a single universal treatment strategy. Clinical deterioration, persistent fever, worsening pain, progressive trismus, inability to swallow, dehydration, extension into deep neck spaces, or concern for airway obstruction should prompt urgent specialist reassessment and consideration of drainage. Peritonsillar abscesses are most frequently situated near the superior pole of the involved tonsil. Before drainage, local anesthetic techniques may be used to improve patient comfort and reduce gagging, although complete anesthesia of an inflamed abscess cavity can be difficult to achieve. In some instances, a small amount of pus may escape after anesthetic infiltration, assisting the clinician in identifying the location of the collection. However, disruption of loculations within the abscess may be uncomfortable, and the procedure should be undertaken by appropriately trained clinicians with suction and airway support immediately available [41].

Needle aspiration is a commonly used drainage technique. The patient is generally positioned upright to facilitate secretion clearance and reduce aspiration risk. Topical anesthesia may be applied to the oropharyngeal structures to improve tolerance of examination and reduce gag reflexes. During aspiration, special attention must be given to the nearby internal carotid artery. In adults, the artery is usually located approximately 20 to 25 mm deep to the tonsillar fossa, while in children it may lie considerably closer, at approximately 8 to 9 mm, particularly in those with craniofacial abnormalities [42][43]. Protective needle-guard techniques and ultrasound guidance may help reduce procedural risk. Purulent material obtained during aspiration may be submitted for Gram staining, aerobic and anaerobic culture, and susceptibility testing when clinically indicated. Children, uncooperative patients, individuals with severe trismus, and patients with anatomically difficult abscesses may require conscious sedation or general anesthesia to permit safe drainage [1][27]. Following the procedure, patients require reassessment of airway stability, pain, oral intake, hydration status, and clinical response to antimicrobial therapy [27].

Incision and Drainage

Incision and drainage is an established procedural option for patients with a confirmed peritonsillar abscess, particularly when a substantial collection is present, symptoms are severe, aspiration has been unsuccessful, or recurrence is a concern. Limited evidence suggests that incision and drainage may be associated with a lower risk of recurrence than needle aspiration alone [27][44]. The decision to use this approach should be individualized and guided by the size and location of the abscess, the patient's ability to cooperate, airway stability, severity of trismus, response to medical therapy, and the expertise of the treating clinician. The procedure should be undertaken in an appropriately equipped clinical environment with suction, monitoring, emergency airway equipment, and access to otorhinolaryngology or anesthetic support when needed. Preparation for incision and drainage follows principles similar to those used for needle aspiration. The patient is generally positioned upright to help maintain airway protection and allow efficient clearance of saliva and purulent material. Topical and local anesthesia may be used to reduce pain and gagging, although complete anesthesia of acutely inflamed peritonsillar tissue can be difficult to achieve. Needle aspiration is often performed before incision and drainage because it may confirm the presence of pus and assist in identifying the most appropriate site for definitive drainage. This step can be particularly helpful when anatomical landmarks are distorted by edema, tonsillar displacement, or severe inflammation [27][44].

The incision is commonly performed through the anterior tonsillar pillar at the point of maximal swelling or fluctuance, often near the medial aspect of

the superior tonsillar pole. The incision should remain superficial because the tonsillar fossa contains important vascular structures, and overly deep instrumentation may increase the risk of bleeding or vascular injury. Once the abscess cavity is entered, released purulent material should be removed promptly with suction to reduce discomfort, gagging, and aspiration risk. Adequate visualization and careful control of secretions are essential throughout the procedure. Following entry into the cavity, gentle blunt separation may be used to open internal loculations and improve evacuation of residual pus. This component of the procedure may remain uncomfortable despite analgesia and local anesthesia because of inflammation, muscle spasm, and tissue sensitivity. Suction may be used to clear the cavity, while saline gargling after the procedure can assist in removing residual debris and secretions. Patient participation in external pressure or gentle "milking" of the affected region may sometimes help facilitate drainage while improving cooperation and reducing sudden movement during the procedure. Clinical reassessment after drainage is important. Many patients experience rapid improvement in throat pressure and pain after evacuation of purulent material; however, residual inflammation and edema may persist for several days. Continued odynophagia, trismus, altered voice, soft-palate swelling, and reduced oral intake are therefore possible despite technically successful drainage. Patients should continue prescribed antimicrobial therapy, analgesia, hydration, and supportive care. They should also be monitored for persistent fever, worsening symptoms, recurrent swelling, bleeding, inability to swallow, respiratory difficulty, or signs of extension into adjacent deep neck spaces. Follow-up is essential to confirm recovery and identify recurrent tonsillitis or recurrent peritonsillar abscess that may warrant further otorhinolaryngology evaluation [27][44].

Tonsillectomy

Tonsillectomy may be considered in selected patients with peritonsillar abscess when conventional drainage is unsuitable, incomplete, or unlikely to provide definitive treatment. In children with a previous history of peritonsillar abscess or coexisting obstructive sleep apnea, acute tonsillectomy performed during the active infection, often termed quinsy tonsillectomy, may be clinically appropriate [1]. This approach removes the involved tonsil, evacuates the abscess, and may reduce the risk of recurrent infection in patients with significant pre-existing tonsillar disease. Quinsy tonsillectomy may also be indicated when the abscess is intratonsillar or positioned at the inferior pole of the tonsil, where needle aspiration or incision and drainage may be technically difficult or inadequately effective [45]. The decision should be made by an experienced otorhinolaryngology specialist after considering airway status, abscess anatomy, patient age, recurrence history, surgical risk, and the availability of

postoperative monitoring. Tonsillectomy during acute infection can be more challenging than elective surgery because inflammation, edema, tissue friability, and increased vascularity may increase the likelihood of bleeding. However, inflammatory separation of the tonsil from surrounding musculature may occasionally facilitate dissection. Careful intraoperative hemostasis, appropriate anesthetic planning, and close postoperative observation are essential to identify bleeding, airway compromise, dehydration, persistent pain, or recurrent infection [45].

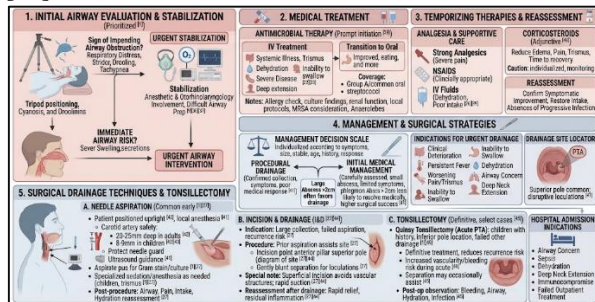


Fig. 4: Comprehensive Treatment and Management of Peritonsillar Abscess.

Differential Diagnosis

The differential diagnosis of peritonsillar abscess includes several inflammatory, infectious, obstructive, and neoplastic disorders that may cause sore throat, dysphagia, pharyngeal swelling, trismus, voice alteration, or symptoms of upper airway compromise. Careful differentiation is essential because these conditions vary considerably in urgency, management, and potential complications. Peritonsillar cellulitis or phlegmon is one of the most important alternatives. Unlike a true abscess, phlegmon represents diffuse inflammatory infiltration without a clearly formed purulent collection. It can produce severe unilateral pain, tonsillar swelling, and uvular displacement, but may respond to antimicrobial therapy without drainage. Acute tonsillitis and pharyngitis may also resemble early peritonsillar infection. These disorders commonly cause sore throat, fever, tonsillar erythema, exudate, cervical lymphadenopathy, and painful swallowing. However, the presence of marked unilateral swelling, trismus, a muffled “hot potato” drooling, medial tonsillar displacement, or significant uvular deviation should increase concern for a peritonsillar abscess. Infectious mononucleosis may cause prominent bilateral tonsillar enlargement and exudative pharyngitis, occasionally with bilateral peritonsillar involvement [45].

Deep neck space infections must be considered when patients have severe neck pain, swelling, restricted neck movement, toxic appearance, respiratory symptoms, or signs of infection extending beyond the tonsillar region. Parapharyngeal abscess and retropharyngeal abscess may produce neck swelling, torticollis, posterior pharyngeal wall

fullness, limited neck extension, and a greater risk of airway compromise or mediastinal spread. Epiglottitis is another critical diagnosis, particularly in patients with severe odynophagia, drooling, muffled voice, stridor, respiratory distress, or relatively minimal visible oropharyngeal findings. Odontogenic infection arising from mandibular molars may spread to submandibular, sublingual, or parapharyngeal tissues and can mimic or coexist with peritonsillar infection. Malignancy should be considered in patients with persistent unilateral tonsillar enlargement, unexplained weight loss, recurrent symptoms, cervical lymphadenopathy, bleeding, or failure to respond to appropriate treatment. Tonsillar lesions may include benign cysts or squamous cell carcinoma. Nasopharyngeal masses, including nasopharyngeal carcinoma, lymphoma, and juvenile nasopharyngeal angiofibroma in adolescent males, may distort the soft palate and produce symptoms resembling infectious disease. Imaging, specialist examination, and tissue evaluation may be necessary when neoplasia is suspected [45].

Prognosis

The prognosis of peritonsillar abscess is generally favorable when the condition is recognized early and managed with appropriate antimicrobial therapy, hydration, analgesia, airway assessment, and drainage when clinically indicated. Most patients demonstrate substantial symptom improvement after effective treatment, and recovery commonly occurs within approximately four to seven days. Relief of pressure and pain may be rapid after successful aspiration or incision and drainage, although residual throat discomfort, trismus, fatigue, and soft-palate edema can persist during the early recovery period. Delayed diagnosis or treatment can adversely affect prognosis, particularly when infection spreads into adjacent deep neck spaces or produces airway obstruction. Patients with severe dehydration, inability to tolerate oral intake, systemic toxicity, immunocompromising conditions, uncontrolled diabetes, or delayed access to emergency and otorhinolaryngology services may require hospital admission and closer observation. Prognosis is also influenced by the presence of complications, including parapharyngeal extension, vascular involvement, aspiration, sepsis, and mediastinitis. Prompt airway protection and definitive treatment are essential when respiratory symptoms, drooling, stridor, or progressive neck swelling develop [46][47].

Recurrence occurs in approximately 1% to 5% of patients and may be more likely in those with recurrent tonsillitis, prior peritonsillar abscess, smoking exposure, poor oral health, or incomplete resolution of the original infection [46][47]. Patients who experience repeated peritonsillar abscesses may be offered interval tonsillectomy after resolution of the acute infection to reduce the likelihood of future

episodes. Follow-up is important to ensure full recovery, confirm restoration of oral intake, review antimicrobial adherence, and identify persistent asymmetry or symptoms that could suggest an alternative diagnosis. In children, prognosis is usually favorable when airway concerns are identified early and treatment is provided in an appropriate setting. However, smaller airway dimensions and limited cooperation during assessment can make clinical deterioration more hazardous. Overall, the majority of patients recover without long-term consequences, but favorable outcomes depend on timely recognition, appropriate source control, effective infection treatment, and careful monitoring for complications [46][47].

Complications

Peritonsillar abscess may lead to serious complications when infection is not recognized promptly, when drainage is inadequate, or when inflammatory edema and bacterial spread extend beyond the peritonsillar space. Upper airway obstruction is among the most urgent complications. Marked pharyngeal swelling, soft-palate edema, tonsillar enlargement, trismus, and inability to clear secretions may compromise the airway, particularly in children and patients with pre-existing upper airway narrowing. Warning signs include drooling, stridor, tachypnea, tripod positioning, altered voice, cyanosis, and increasing respiratory distress. These findings require immediate airway assessment and specialist involvement. Spontaneous rupture of an abscess can result in aspiration of purulent material, creating a risk of aspiration pneumonitis or aspiration pneumonia [48]. Infection may also extend to the ipsilateral cervical lymph nodes, causing suppurative lymphadenitis and additional neck swelling. Spread into the sublingual or submandibular spaces may produce Ludwig angina, a rapidly progressive cellulitis of the floor of the mouth that can elevate the tongue and create a severe airway emergency. Such extension is especially concerning when dental infection is present or when swelling involves the submandibular region. The infection may penetrate through the superior pharyngeal constrictor muscle and reach the parapharyngeal space, retropharyngeal space, or other deep cervical fascial compartments. Inferior spread along these spaces can lead to descending mediastinitis, a life-threatening infection of the mediastinum that requires urgent surgical and critical-care management. The proximity of major cervical blood vessels also creates the risk of internal carotid artery pseudoaneurysm, arterial erosion, or rupture [49]. Involvement of the internal jugular vein can result in septic thrombophlebitis, known as Lemierre syndrome. This complication may release septic emboli to the lungs, brain, and other organs, leading to metastatic infection, septicemia, shock, and death [48][50][51]. Although extremely uncommon, necrotizing fasciitis has also been reported following peritonsillar abscess [52][53]. Most complications are

rare, but mortality may approach 10% when severe complications occur [37].

Patient Education

Patient education is an essential component of safe discharge planning after treatment for peritonsillar infection. Patients and caregivers should understand that improvement may be gradual, particularly during the first several days after drainage or initiation of antimicrobial therapy. Residual throat pain, swallowing discomfort, trismus, fatigue, altered voice, and soft-palate swelling may persist temporarily. However, symptoms should progressively improve rather than worsen. Patients should be instructed to maintain adequate hydration, consume soft foods as tolerated, take prescribed medications exactly as directed, and complete the full antimicrobial course unless a treating clinician advises otherwise. Patients must seek urgent medical reassessment if they develop breathing difficulty, increasing throat or neck pain, inability to swallow fluids or saliva, progressive trismus, recurrent tonsillar swelling, fever, neck stiffness, bleeding from the throat, drooling, worsening voice change, or any symptoms of respiratory distress. These features may indicate treatment failure, abscess recurrence, dehydration, airway compromise, or extension of infection into deeper neck spaces. Outpatients should generally undergo clinical reassessment within 24 to 36 hours to confirm symptom improvement, oral medication tolerance, hydration, and absence of complications. Patients discharged after hospitalization should be reviewed within several days to assess nutritional intake, hydration, pain control, recovery of normal swallowing, and ongoing clinical improvement. Smoking and alcohol use have been identified as risk factors for peritonsillar abscess; therefore, patients should be encouraged to avoid smoking, vaping, and excessive alcohol consumption. Patients with recurrent tonsillitis or prior peritonsillar abscess require careful follow-up because repeated episodes increase the likelihood of future infection. Tonsillectomy may be considered for recurrent disease, although peritonsillar abscess has rarely been reported even after tonsil removal [54][55][56]. Because bacterial pharyngitis and tonsillitis commonly precede abscess formation, prompt assessment and appropriate treatment of recurrent severe throat infection may reduce the risk of progression [57].

Enhancing Healthcare Team Outcomes

Optimal management of peritonsillar abscess requires coordinated interdisciplinary care because the condition may involve airway risk, severe pain, dehydration, infection control concerns, procedural drainage, and potential deep neck complications. Primary care clinicians, emergency medicine teams, otorhinolaryngologists, nurses, pharmacists, laboratory personnel, radiology professionals, anesthetic teams, and social-support services may all contribute to safe and effective patient care. Clear

communication among team members is particularly important when a patient has respiratory symptoms, substantial trismus, systemic illness, difficult anatomy, suspected deep neck extension, recurrent disease, or limited ability to access follow-up care. Emergency and primary care clinicians play a central role in early recognition, airway assessment, initiation of supportive treatment, and timely specialist referral. Otorhinolaryngology consultation is especially important when drainage, tonsillectomy, advanced airway management, or assessment for deep neck space infection is required. Nursing care supports frequent monitoring of vital signs, airway status, pain severity, hydration, swallowing ability, medication tolerance, and clinical deterioration. Nurses also provide practical education regarding oral fluid intake, medication adherence, warning signs, and the importance of attending scheduled follow-up. Laboratory professionals assist with culture processing and antimicrobial susceptibility testing in selected cases, particularly when infection is extensive, recurrent, resistant to empiric therapy, or present in immunocompromised patients. Radiology teams contribute through ultrasonography or contrast-enhanced computed tomography when the diagnosis is uncertain or complications are suspected. Pharmacists can support appropriate antimicrobial selection, allergy assessment, dose optimization, adverse-effect monitoring, and transition from intravenous to oral therapy. Post-treatment follow-up is essential to verify complete recovery and ensure that patients can tolerate adequate fluids, nutrition, and prescribed medication. Patients with recurrent peritonsillar abscess should be referred to an otorhinolaryngologist to discuss whether interval tonsillectomy may reduce future episodes [58][59]. A coordinated approach improves timeliness of treatment, reduces preventable complications, and promotes safer recovery.

Conclusion:

Peritonsillar abscess is a common but potentially dangerous deep neck infection that requires timely diagnosis and effective management. It commonly follows tonsillitis or pharyngitis and typically presents with unilateral throat pain, fever, dysphagia, odynophagia, trismus, muffled voice, and peritonsillar swelling. Although the prognosis is generally favorable, delayed treatment may lead to dehydration, airway compromise, aspiration, deep neck extension, sepsis, vascular complications, and mediastinitis. Effective care depends on early airway assessment, repeated clinical examination, appropriate imaging when needed, antimicrobial therapy, hydration, pain control, and drainage of a confirmed collection when clinically indicated. Needle aspiration and incision and drainage are important options, while tonsillectomy may be appropriate for selected patients with recurrent disease, obstructive sleep apnea, or inaccessible abscesses. Collaboration between

emergency clinicians, nurses, otorhinolaryngologists, laboratory professionals, and other healthcare providers supports safe, timely, and patient-centered care. Prompt treatment and structured follow-up remain essential for minimizing recurrence, preventing complications, and achieving full recovery.

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