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PARATONSILLAR ABSCESS, CLINIC, SYMPTOMS, ETIOLOGY, PATHOGENESIS,

DIAGNOSIS, TREATMENT AND COMPLICATIONS

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Abstract. Peritonsillar abscess usually occurs following acute tonsillitis. The exact pathophysiology of peritonsillar abscess formation remains unknown to date. Oral and laryngeal mucosa is anesthetized with lidocaine 10% spray. The incision is given at the point of the maximum bulge above the upper pole of the tonsil. Another alternative site for incision is lateral to the point of junction of the anterior pillar with a line drawn through the base of the uvula.

Keywords: Swelling, Group A beta-hemolytic streptococcus, Lactobacillus, peritonsillitis, C-reactive protein, Epiglottitis.

ПАРАТОНЗИЛЛЯРНЫЙ АБСЦЕСС, КЛИНИКА, СИМПТОМЫ, ЭТИОЛОГИЯ, ПАТОГЕНЕЗ, ДИАГНОСТИКА, ЛЕЧЕНИЕ И ОСЛОЖНЕНИЯ

Аннотация. Паратонзиллярный абсцесс обычно возникает после острого тонзиллита. Точная патофизиология образования паратонзиллярного абсцесса до сих пор неизвестна. Слизистая оболочка полости рта и гортани анестезируется спреем лидокаина 10%. Разрез делается в точке максимального выпячивания над верхним полюсом миндалины. Другое альтернативное место для разреза — латеральнее точки соединения передней ножки с линией, проведенной через основание язычка.

Ключевые слова: отек, бета-гемолитический стрептококк группы A, лактобацилла, перитонзиллит, C-реактивный белок, эпиглоттит.

Clinical Anatomy

Peritonsillar space consists of loose connective tissue between the fibrous capsule of palatine tonsils medially and superior constrictor muscle laterally. The anterior and posterior tonsillar pillar contribute to anterior and posterior limits, respectively. Superiorly, this space is related to torus tubarius, while pyriform sinus forms the inferior limit. Since this space is composed of loose connective tissue, it is highly susceptible to abscess formation following infection.

Etiology

Peritonsillar abscess usually occurs following acute tonsillitis. Infectious mononucleosis can also result in abscess formation. Rarely, it may occur de novo without any prior history of a sore throat. Smoking and chronic periodontal disease could also cause quinsy.

Cultures most commonly reveal Group A beta-hemolytic streptococcus. The next most commonly found organisms include staphylococcal, pneumococcal, and hemophilic organisms.

915

PF international scientific journal

Epidemiology

Peritonsillar abscess is a common infection of the head and neck region. With an incidence of approximately 1 in 10,000, it is the most common deep head and neck space infection that presents in the emergency department.

It is more common among the adolescent population although it can occur in any group.

There is no sexual or racial predilection. In the United States, the incidence is 30 per 100,000 among patients who are 5 to 59 years of age. Peritonsillar abscess is rare below five years of age.

Pathophysiology

The exact pathophysiology of peritonsillar abscess formation remains unknown to date.

The most accepted theory is that an infection develops in crypta magna that then spreads beyond the confines of the tonsillar capsule, initially causing peritonsillitis and then developing into a peritonsillar abscess.

Another proposed mechanism is necrosis and pus formation in the capsular area which then obstructs the webers glands, resulting in abscess formation. These are minor salivary glands in peritonsillar space which are responsible for clearing debris from the tonsillar area. The occurrence of peritonsillar abscess in patients who have undergone tonsillectomy further support this theory.

History and Physical

The patient mainly complains of progressively increasing pain in the throat which is usually unilateral. There may be referred earache on the same side. Associated odynophagia (painful swallowing) is present, which in certain cases becomes so severe that the patient cannot swallow his or her saliva. This results in poor oral hygiene and oral sepsis-causing halitosis (foul breath).

As the abscess size progresses, it may result in muffled speech or "hot potato" voice. Neck pain develops secondary to inflamed cervical lymph nodes. Trismus (inability to open mouth) of varying severity occurs in almost every case due to inflammation of the pterygoid muscles, which lie near the superior constrictor muscles. Other accompanying features include fever with rigors and chills, malaise, body aches, headache, nausea, and constipation.

As the inflammation proceeds, an abscess may extend to the parapharyngeal and prevertebral space, causing respiratory distress.

On examination, the patient is usually ill-looking and febrile. Clinical presentation may vary from acute tonsillitis with a minimal unilateral pharyngeal bulge to dehydration and sepsis.

On local examination, there is trismus of varying degree. The tonsil is found pushed downward and medially; it blanches on applying slight pressure.

916

The uvula is swollen and edematous and pushed to the opposite side. There is a bulge on the soft palate and anterior tonsillar pillar. Mucous may be seen overlying the tonsillar region.

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Cervical lymphadenopathy is seen, usually in the jugulodigastric lymph nodes. Torticollis may be seen as the patient keeps the neck tilted on the affected side.

Evaluation

Diagnosis and Work Up

Diagnosis of peritonsillar abscess is usually made clinically by any of the following features:

• Unilateral swelling of the peritonsillar area

- Non-resolving acute tonsillitis with persistent unilateral tonsillar enlargement
- A bulge on the unilateral soft palate with anterior displacement of the ipsilateral tonsil

Laboratory Investigations

- Complete blood count (CBC) and electrolytes
- Heterophile antibody test (to rule out suspicion of infectious mononucleosis)
- Pus culture sensitivity from needle aspirate of the abscess

• C-reactive protein blood culture might be required in patients presenting with features of sepsis

Radiological Investigations

• X-ray of the soft tissue of the neck

• Contrast-enhanced CT is required in a very young patient where clinical diagnosis or in cases with other complications like the development of parapharyngeal or retropharyngeal abscess is not feasible.

• Intraoral ultrasonography is a simple, non-invasive imaging modality proposed to differentiate peritonsillitis from a peritonsillar abscess. Another important use is in the exact localization of site for abscess drainage.

Treatment / Management

Medical Management

The patient is hospitalized. Intravenous fluids are started, as the patient is usually dehydrated.

A suitable intravenous antibiotic is started. The antibacterial spectrum should include grampositive, gram-negative, and anaerobes. Commonly used empirical antibiotics are penicillins like ampicillin/amoxicillin in combination with metronidazole or clindamycin. (Ideally, antibiotic therapy should be started as per culture sensitivity reports). A patient is shifted to oral antibiotics once he improves and can tolerate orally.

Analgesics and antipyretics are given to relieve pain and fever.

917

The role of steroids is controversial. A study shows that a single dose of intravenous (IV) dexamethasone reduces the hospital stay and severity of symptoms.

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These conservative measures can cure peritonsillitis; however, for peritonsillar abscess, drainage is a must along with medical management.

Surgical Management

Aspiration with a wide-bore needle serves both diagnostic and therapeutic purposes. The aspirated pus can be sent for culture sensitivity, and in some cases, further incision and drainage may not be required.

Intraoral incision and drainage are carried out in a sitting position to prevent aspiration of pus. Oral and laryngeal mucosa is anesthetized with lidocaine 10% spray. The incision is given at the point of the maximum bulge above the upper pole of the tonsil. Another alternative site for incision is lateral to the point of junction of the anterior pillar with a line drawn through the base of the uvula. Quinsy forceps or No. 11 guarded blade and then sinus forceps are inserted to break the loculi. The opening created is left open to drain, and the patient is asked to gargle with sodium chloride solution. This helps in self-drainage of accumulated material.

In uncooperative, young patients or those affected in an unusual location, the procedure might have to be done under general anesthesia.

Differential Diagnosis

- Dental infections
- Epiglottitis
- EBV infectious mononucleosis
- Pharyngitis
- Retropharyngeal abscess

Complications

Rare complications of peritonsillar abscess include:

- Parapharyngeal abscess
- Retropharyngeal abscess
- Laryngeal edema leading to airway compromise
- Rarely pneumonia or lung abscess following aspiration of a ruptured abscess.
- Sepsis