

RETROPHARYNGEAL ABCESS IN ADULT

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Summary

Retropharyngeal abscess in adults can be life-threatening. The otorhinolaryngologist is on the front line in making the diagnosis and treatment of this disease. The aim of this study to review the clinical features, the diagnostic and the manegement of retropharyngeal abscess in adult.

Patients and methods:

Retrospective study of retropharyngeal abscess hospitalized in the ENT department from 2018-2023.

Result:

5 patients in the study, average age 48, gender: 4 men and 1 woman. Paraclinical results include pre-operative CT scan, surgical treatment of pus drainage through the throat, combined with intravenous antibiotics. Postoperative pus culture results are group A Streptococcus susceptible to Amoxilline, 1 case of MRSA Staphylococcus. After a period of treatment at the hospital, all patients were stable and discharged.

Conclusion:

Retropharyngeal abscess is a critical infection in the deep neck space located in front of the spine and behind the esophagus. Patients need to be diagnosed quickly and accurately to have an intervention plan. CT scan imaging is the main important diagnostic method for accurate and timely diagnosis and intervention planning, especially differential diagnosis with abscesses caused by cellulitis. Treatment includes intravenous broad-spectrum antibiotics and surgical drainage of the abscess if necessary. The results are usually good.

Keywords: retropharyngeal abcess

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Introduction

Retropharyngeal abscesses are common in children from 2-4 years old, caused by the inflammation of retropharyngeal lymph nodes develop around this location. In adults, diagnosis will be more difficult because the deep neck infections affect the respiratory tract and can threaten the patient's life.

The purpose of this study is to review and discuss the diagnosis and treatment of retropharyngeal abscess at Cho Ray hospital department and review of literature.

2. Patients and methods

Retrospective study of 5 cases of retropharyngeal abscesses in adults admitted for at the Ear, Nose and Throat Department of Cho Ray Hospital during the period 2018-2023. Patient characteristics, clinical symptoms, imaging, clinical examination, and surgical treatment were recorded.

3. Results

Four male patients and one female patient with a mean age of 48 years (range: 45-62 years) were included in this study.

The cause was recorded as:

- 1 case of severe neck pain, fever, dysphagia after esophagoscopy with a flexible endoscope.

- 2 cases had previous symptoms of tonsil swelling and pain.

- 2 cases complained of sore throat with self-treatment but did not go away.

Common symptoms (3 cases) are fever, sore throat, difficulty swallowing, difficult to open the mouth and swelling of the back of the throat. Symptoms of shortness of breath are often mild, one female patient had symptoms of difficulty breathing when doing heavy work.

CT scan was performed in all cases. Axial and sagittal CT scans with reconstruction showed clear visualization of the involved spaces and the extent of the abscess in all cases. In 1 case, the extent of the abscess spread from C1 to C6, there was no case of the abscess spreading to the mediastinum.

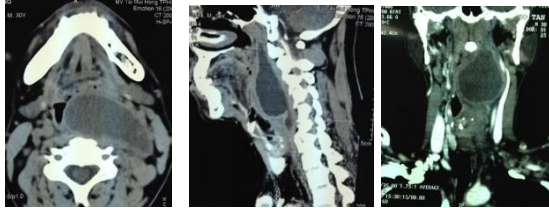
Blood tests recorded an increase in inflammatory markers in the blood, specifically an increase in the number of neutrophils $> 12,000$ in all cases, 1 case of leukocytes 16,800, an increase in the sedimentation rate index and CRP index.

Treatment depends on the location and extent of the abscess as well as assessment of the patient's clinical condition. Intravenous and broad-spectrum antibiotics are used as soon as the patient is admitted to the hospital. We choose to use empiric intravenous and broad-spectrum antibiotics as soon as the patient is hospitalized for throat infections: Amoxicillin- Clavulanate (80mg/kg/day) or Ceftriaxone (2g/day)

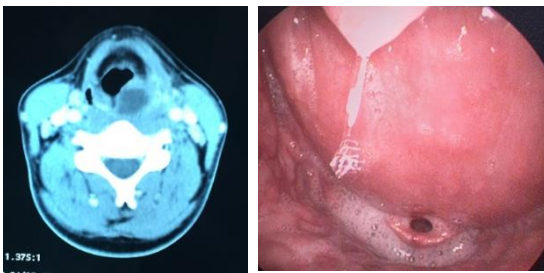
All 5 cases had surgical intervention by incision and drainage of the abscess directly through the mouth or performed under endoscopy.

The pus taken from the abscess incision

was cultured and tested for antibiotics. The results of bacterial cultures from the abscesses were many types of bacteria, including group A Streptococcus Hemolytique sensitive to Augmentin and Ceftriaxone, and 3 cases had Haemophilus influenzae, 1 case had Staphylococcus aureus MRSA.

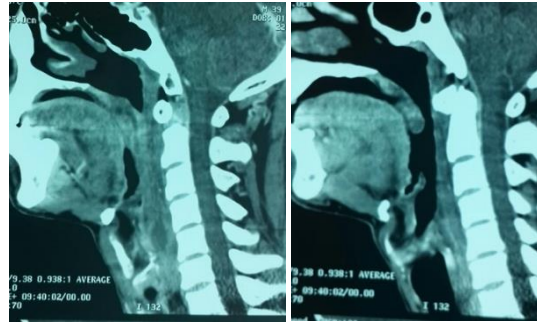


(A)(B)(C). retropharyngeal abscess



(A). Left arytenoid cartilage abscess (B). Endoscopic image shows posterior pharyngeal wall bulge.

After incision and drainage and using antibiotics, the patient's condition had good clinical changes after 24-48 hours such as pain relief, fever reduction, less swelling, and more alertness. After obtaining the results of bacteria and antibiotics, 4 patients continued to use Ceftriaxone intravenously for 5-7 days. 1 patient was switched to Linezolid followed by oral antibiotics for 7-10 days.



(A) (B)

Figure: (A) Retropharyngeal abscess after esophagoscopy. (B) after abscess drainage

All patients were discharged from the hospital without fever, the white blood cells in the blood returned to less than 10,000/mm³, 1 patient had a CT scan before discharge showing that the retropharyngeal cavity had returned to a normal image. They were re-examined after 2 weeks and 1 month after discharge, their condition was stable and there were no symptoms of recurrence.

DISCUSSION

The retropharyngeal space is a cavity located in the deep fascia layer of the neck, running along the neck from the base of the skull to the mediastinum. Usually in children, infection of the retropharyngeal lymph nodes (also known as Gillette's lymph nodes) located in the oropharyngeal fascia layer at about the level of the 2nd cervical vertebra and causes an abscess in the retropharyngeal wall. Retropharyngeal lymph nodes usually disappear after 2 years of age ^{3,6}.

In adults, abscesses of the retropharyngeal wall are often caused by injuries caused by penetrating foreign

bodies (by sharp objects, foreign objects) or endogenous trauma (due to endoscopy, nasogastric tube placement, laryngoscopy) or due to spread of infection from the tonsils, cervical spine tuberculosis or from adjacent cervical cavities⁷. However, in this study, there were no cases of patients with previous trauma or foreign bodies. Suspected diagnosis is based on clinical symptoms: high fever, difficulty swallowing (5/5 patients), throat pain spreads to the ear, stiff neck, difficult to open the mouth, change in voice and swelling in the back of the throat.

Multiple studies in recent years have documented an increase in the number of cases and have been linked to inflammation of the tonsils as well as an increase in an antibiotic-resistant infection called MRSA⁴.

Resuscitate the patient and ensure electrolyte replacement: Because the patient has difficulty eating and drinking for a period of time, when hospitalized, they often show signs of fatigue, exhaustion, lack of water and electrolyte disorders, so attention should be paid to rehydration of fluids and electrolytes as well as protein and lipids for patients.

Infact, it is not easy to difference the clinical picture between deep neck abscess and cellulitis. Clinical testing often reveals signs of inflammation, but no biological markers related to infection. In our study, an increase in white blood cells, erythrocyte sedimentation rate as well as inflammatory values (CRP, Procalcitonine in the blood) were recorded, indicating the infectious origin of the disease. Always ask about their history of diabetes as well as blood and urine tests to check for diabetes. Currently, the majority of deep neck infections are related

to poorly controlled diabetes. Out of 5 cases we recorded 2 cases of high blood sugar (200mg%) when admitted to the hospital, to ensure a safe and effective in the postoperative period, they need to adjusted their blood sugar back to lower level 180mg% before intervention.

Imaging plays an important role in disease diagnosis. Lateral neck X-rays are still valuable in diagnose deep neck abscesses. However, in our hospital we rarely use it because most patients when admitted are in severe condition and may have many other complications so we often do CT scan to fully assess the patient situation. CT scan of the neck with reconstruction is the most effective in detecting fluid collections in the back of the throat, accurately determining size, location, relationship with other structures. If there is a deep collection of fluid means the abscess has formed and may or may not have a thick capsule depending on the time the abscess formed and whether surgical drainage is indicated. In case of consideration between medical or surgical treatment, antibiotics can be used for 24-48 hours. If symptoms do not improve in 24h or worsen or the abscess is over 2-2.5cm in size, surgery indication should be^{1,5}.

The role of MRI is not superior to CT scanning except in rare cases of jugular vein thrombosis or carotid artery erosion. In this study, we did not record any cases of abscesses related to blood vessels. Ultrasound can replace CT scans to help make diagnoses with an accuracy of 85% - 100% as well as help avoid excessive exposure to rays especially in children, as well as making it easier to move and use in

the operating room].

When examining patients, it is necessary to be gentle and avoid rough movements in the mouth and throat because that cause discomfort or irritation and make the patient have difficulty breathing or feel nauseous. Restore water, electrolytes and supplement nutrition intravenously. If the CT scan shows fluid in the soft space in the space but does not match the symptoms and progression of the disease, we must carefully evaluate to avoid with a case of carotid artery aneurysms.

Broad - spectrum, intravenous antibiotics are used as soon as the patient is admitted to the hospital, which is Amoxillin - Clavulanate Acid (50mg/ kg/every 6 hours) or 3rd generation Cephalosporine combined with Metronidazole. Clindamycin (15mg/kg/every 8 hours) can be used in case the patient is allergic to Amoxicillin. Antibiotics will be adjusted when the results of the antibiogram are available (Clindamycin; Vancomycin; Linezolid; Amoxilline-Clavulanate). If the patient has signs of toxic infection or does not respond to initial antibiotics, Linezolid or Vancomycin will be used instead until the patient shows signs of improvement in clinical symptoms or no fever within 24 hours^{1,3,4}.

Oral antibiotics can usually be used continuously for about 12 days when discharged from the hospital.

Abscess aspiration: We have no cases treated with simple aspiration and drainage. In fact, using a needle to suction pus directly from the abscess or aspiration under endoscopy, suctioning out the pus will help

confirm the diagnosis of the abscess while helping to reduce swelling, help the patient have less difficulty breathing and can be washed. having to open the patient's trachea.

Surgery is usually performed under endotracheal anesthesia. It should be noted that attempting to insert an endotracheal tube can cause swelling of the posterior pharyngeal wall and even the epiglottis and arytenoid cartilage. Do not insert or press because it can cause bleeding complications or puncture the throat mucosa or even rupture the abscess. Cases where intubation is difficult, anesthesiologist can use a light with a screen. Tracheostomy is indicated in cases where difficult intubation and removed soon when the patient is awake and breathing well.

Drain the abscess through the mouth: use an MC Ivor or Crowe - Davis mouth band then make a drainage incision in the most bulging place in the back of the throat in a horizontal line to drain the pus. Take pus for antibiotic testing. After abscess drainage combined with antibiotic treatment, clinical symptoms such as fever, pain, limited mouth opening, difficulty breathing, and fatigue often decrease significantly after 24-48 hours. If clinical symptoms do not improve or increase, drainage or antibiotics may need to be reconsidered. The endotracheal tube or tracheal canule should not be left in place for more than 24 hours because it can easily cause aspiration pneumonia.

Culturing pus from the abscess drainage incision allows identification of bacteria. Usually, bacteria are similar to those causing oropharyngeal infections: *Polymicrobial*, group A *Hemolytic Streptococcus*, *Staphylococcus*, *Haemophilus* or even *anaerobic bacteria*. In some cases, the

causative pathogen may not be identified. Tuberculosis spondylitis is a common cause of retropharyngeal abscesses in adults. In our study we identified mainly *group A Streptococcus hemolytic*, and *Staphylococcus aureus*⁵.

Clinical and blood test indicators will allow to evaluate the progression of the disease for the better if treated properly. However, a retropharyngeal abscess can be accompanied by many complications and sequelae, and can even lead to death if not treated early and properly. This requires physicians to have understanding of the disease and its complications as aspiration pneumonia, acute respiratory failure, infection spreading to surrounding organs or to the mediastinum, blood clots in the jugular vein or septic shock^{2,4}.

Correct and timely treatment with antibiotics often gives very positive results, improving the clinical condition and saving the patient's life. However, it is also important to know that the possibility of recurrence of the disease is 1-5% of cases.

Conclude

Retropharyngeal abscess is a clinical form of deep neck infection. Diagnosis is sometimes difficult and CT scan is the most effective tool in diagnosis and treatment decisions. Before a patient is diagnosed with a retropharyngeal abscess, it is necessary to carefully monitor clinically, diagnose by imaging, pus culture for antibiogram, early intravenous antibiotics according to experience and then according to the results. antibiogram results. In most cases, treatment is antibiotics, anti-inflammatories and surgical drainage combined when indicated.

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