CASE REPORT

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Parapharyngeal Abscess in a Child: A Case Report

Hasan Pourmoshtagh[1]*, Nader Akbari Dailamaghani[2,3]

1. Department of Pediatric Infectious Disease, School of Medicine, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
2. Hearing Disorders Research Center, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
3. Department of Otorhinolaryngology, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

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Corresponding Authors:
Dr. Hasan Pourmoshtagh

Email:
hpourmoshtagh@gmail.com

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Abstract

Background: Parapharyngeal space abscess is a rare and life-threatening condition that is more prevalent in preschool children. Patients mostly are febrile with sore throat and torticoli. The diagnostic method of choice is a neck CT scan with contrast. Patients should be admitted and receive intravenous antibiotics with coverage of aerobic and anaerobic organism. Also, otolaryngology consultation for early surgery and drainage should be done. In this report, we presented a three and a half years old boy with fever, sore throat, and torticoli.

Case presentation: A three and a half years old boy was referred to our hospital due to fever, sore throat, torticollis, neck lymphadenopathy, and poor feeding except receiving antibiotics, his symptoms didn't change. Ultrasonography was done with multiple bilateral lymphadenopathies in submental, submandibular, and jugular proximities with the maximum sizes if 9 mm in the left side and 7 mm in the right side with no collections or abscess. In the CT scan there were a left parapharyngeal space abscess with spread to retropharyngeal and pressure effect on hypopharynx and another abscess in the same site. Surgical drainage of both abscesses was done and postoperative ICU admission with blood transfusion and intravenous antibiotics including meropenem, vancomycin, and metronidazole administered. Finally, the patient was discharged with a good condition and there was no complaint or problem in follow-ups.

Discussion: Although this disease is life-threatening but, with early diagnosis and proper treatment, prognosis will be good. Delay in the diagnosis and treatment increases complication rate and can increase mortality rate to 40%.

Conclusion: Retropharyngeal or parapharyngeal abscess is rare and life-threatening condition that physician should be aware about it.

Conflicts of Interest: The Authors declare no conflicts of interest.
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Introduction

Parapharyngeal space is the most common site of infection in the neck of children. Retropharyngeal or parapharyngeal abscesses are uncommon and they occur due to spread on pharyngeal infections into this region (1, 2). Rhinosinusitis, adenoiditis, and tonsillitis are the most common causes that may lead to an abscess. Retropharyngeal lymph nodes will decrease in size by the age of 6, so retropharyngeal or parapharyngeal abscesses affect preschool children. Also, more than 95% of retropharyngeal abscesses occur in children under 6 years of age (3, 4). Fever, pain in the neck or the throat, and restriction of neck movement are the main symptoms of these abscesses. Sore throat, swelling, and dysphagia may also be seen, but fever is the most common symptom and may be the only symptom.

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Therefore, delay in the diagnosis may occur until the presentation of a neck mass or pain (3, 5, 6). Although retropharyngeal or parapharyngeal abscesses are not common, but they are life threatening. Complications of these abscesses include airway obstruction, aspiration pneumonia, mediastinitis, carotid artery rupture, internal jugular vein thrombosis and sepsis (7).

In this report, we represent a 3.5 of years old with parapharyngeal space abscess with fever and sore throat 4 days before referring to our clinic. Finally, parapharyngeal abscess was diagnosed based on CT scan findings in our center.

Case presentation

A three and a half years old boy was referred to our hospital due to fever and sore throat starting 4 days ago. He was visited in another center and oral cephalexin and IV ceftriaxone were prescribed for him but his symptoms didn't change. He was referred to emergency department of our hospital with fever, sore throat, torticollis, neck lymphadenopathy, poor feeding and he was admitted. Physical exam include torticollis to the left side with neck stiffness and painful neck movements. There was tenderness in neck palpation with bilateral tender lymphadenopathy. Moreover, he had moderate trismus and pain in mouth opening.

There were bilateral swollen and erythematous tonsils without exudate. There was no respiratory distress, tachypnea, or stridor. Meningeal irritation signs were negative. Vital signs are, pulse rate: 160/minute, respiratory rate: 26/minute, blood pressure: 95/60 mmHg, and body temperature: 38.3°C. In neck ultrasonography there were multiple bilateral lymphadenopathy in submental, submandibular, and jugular proximities with the maximum sizes if 9 mm in the left side and 7 mm in the right side with no collections or abscess.

The laboratory findings at the admission time were white blood cell (WBC) count of 18600 /dL (neutrophil: 88%, lymphocyte: 7%), hemoglobin: 8.5 g/dL, platelet: 395000/dl, C-reactive protein (CRP): 71mg/dL, erythrocyte sedimentation rate (ESR): 52mm/h, and blood culture: negative.

In the CT scan there were two abscesses. A left parapharyngeal abscess with spread to retropharyngeal site with a size of 33*34*21 mm with pressure effect on hypopharynx. The other abscess was in the same site with a size of 10*10mm (Figure 1). There were multiple reactive lymphadenopathies with maximum size of 10 mm in both sides of the neck (Figure 1).

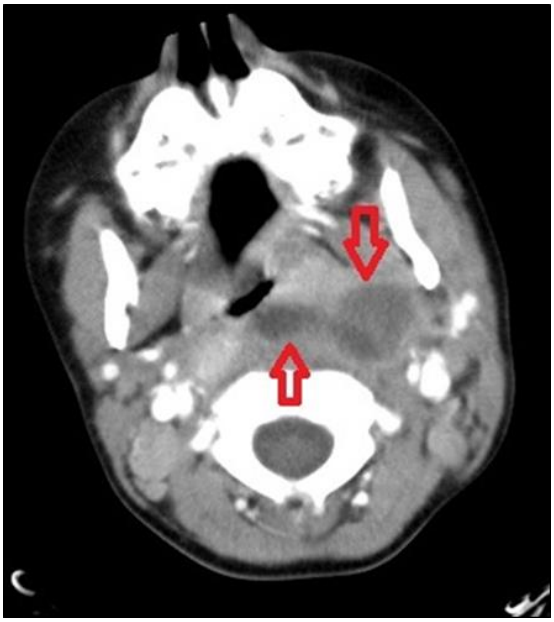

Figure1. Parapharyngeal space abscesses in the axial CT scan with intravenous contrast

Otolaryngology consultation requested and surgical drainage of both abscesses accomplished. Postoperative ICU admission with blood transfusion and intravenous antibiotics including meropenem, vancomycin, and metronidazole administered during hospitalization. After 48 hours of the surgery, he became afebrile and blood laboratory studies were improved (WBC: 9300/dL (neutrophil: 49% and lymphocyte: 38%), ESR: 17mm/h, and CRP: 43 mg/dL).

Patient was discharged and fully recovered 8 days later with oral antibiotics (clindamycin

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and cefixime) for one week. There was no complication in follow up.

Discussion

Today, parapharyngeal and retropharyngeal abscesses are infrequent because of extreme availability of antibiotics. The typical age of the occurrence of these abscess are between the ages of 2 to 4, but it can present at any age in very rare cases. Upper respiratory tract infections, especially at the pharynx, are the main cause of retropharyngeal and parapharyngeal abscesses. In 25% of cases, trauma is the cause of abscess. Trauma to retropharyngeal space can induce inoculation and abscess formation (5, 8). There are limited data about the incidence of retropharyngeal and parapharyngeal abscesses. Woods et al, conducted a study to evaluate the incidence rate of retropharyngeal and parapharyngeal abscesses in United State during ten years and they found that the incidence of retropharyngeal abscesses in 2012, 4.10/100,000. The incidence of parapharyngeal abscess reached to 1.49/100,000 (9).

Patients with retropharyngeal or parapharyngeal abscesses typically have fever and they are ill and toxic in general appearance. Pharyngeal erythema, swelling, and torticollis with painful neck movements are seen in these patients (6). Our patient had all of these manifestations.

Complete blood count, blood cultures, CRP and ESR are necessary in retropharyngeal abscess suspicion. (10). Ultrasonography rather than radiography is preferred but IV contrast enhanced CT scan of the neck is the choice imaging to assess patients with a retropharyngeal or parapharyngeal abscess With The sensitivity about 64% to 100% (11-13).

All patients with a confirmed diagnosis of parapharyngeal or retropharyngeal abscess should be hospitalized and receive antibiotics intravenously, then otolaryngology consultation for probable surgery should be perform. Intravenous antibiotics should cover upper respiratory organisms (14-16).

Aerobic and anaerobic pathogens are found in the culture. Group A Streptococci and Staphylococcus aureus can be common causes in retropharyngeal or parapharyngeal abscess. In retropharyngeal or parapharyngeal abscess blood cultures are often negative in most of the cases and this is a challenge for the diagnosis (17, 18).

With early diagnosis and proper treatment, prognosis will be good (19). Delay in the diagnosis and treatment increases complication rate and can increase mortality rate to 40% (20, 21).

Conclusion

Retropharyngeal or parapharyngeal space abscess is rare and life-threatening condition that physician should be aware about it. In children with fever, sore throat, and torticollis, retropharyngeal or parapharyngeal abscess should be on top of the differential diagnosis and if there is any doubt, CT scan of the neck with contrast should be requested.

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Conflicts of Interest

The authors declare no conflicts of interest.

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Patient's Perspective

Written consent was obtained from the patient. The whole process of examination and the purpose of the article was thoroughly explained.

Authors ORCIDs

Hasan Pourmoshtagh

https://orcid.org/0000-0001-8478-8226

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Nader Akbari Dailamaghani
https://orcid.org/0000-0002-5473-1904

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