Persistan Stridor ile Seyreden Retrofarengeal Abse Olgusu

Persistent Stridor Due To Retropharyngeal Abscess: A Case Report

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ÖZET

Giriş: Stridor, üst solunum yolu enfeksiyonları sırasında görülen, üst hava yolunun daralması nedeniyle oluşan kaba solunum sesidir. Çocuklarda akut stridorun en sık nedeni viral krup olsa da, stridorun semptomatik tedaviyle düzelmediği durumlarda retrofarengeal apse gibi altta yatan ciddi nedenler karşımıza çıkabilmektedir.

Olgu: 13 aylık erkek hasta öksürük, stridor ve nefes almakta zorlanma şikayetleriyle başvurdu. Bir hafta önce 3 gün süren ateş ve burun akıntısı şikayetleri olduğu öğrenildi. Kabulünde vücut sıcaklığı 37°C, kalp hızı 114/dakika ve solunum sayısı 36/dakikaydı. Fizik muayenesi stridoru dışında normal, boyun hareketleri serbestti. Beyaz küre 13,600/mm³, C-reaktif protein 146 mg/L, eritrosit sedimentasyon hızı 111/saatti. Posteroanterior akciğer grafisi (PAAG), solunum yolu viral paneli ve kan viral serolojileri normaldi. Nebülize rasemik epinefrin (0.05 ml/kg doz) ve oral deksametazon (0.15 mg/kg/doz) tedavileriyle şikayetlerinde gerileme olmadı. Yatışının ikinci gününde boyun hareketlerinde kısıtlılık, yutma güçlüğü ve sekresyon artışı ortaya çıktı. Lateral servikal grafisinde üst mediastene uzanan prevertebral yumuşak doku kalınlaşması (2 cm), faringeal hava sütununda daralma ve trakeal hava sütununda anteriora doğru yer değiştirme saptandı. PAAG'de trakeal hava sütununun üst bölümünde sağa deviyasyon görüldü. Bilgisayarlı boyun tomografisinde 6.5x3x9.5 cm boyutlarında, C1-T4 arasında uzanan retrofarengeal sıvı koleksiyonu saptandı. Abse drene edilip ampisilin-sulbaktam (200 mg/kg/gün) ve klindamisin (40 mg/kg/gün) tedavileri başlandı. Abse sıvısının histopatolojik incelemesi enfeksiyonla uyumluydu, kültüründe metisilin hassas *Staphylococcus aureus* üredi. Kliniği düzelen hasta intravenöz antibiyotik tedavisinin 14. gününde oral amoksisilin-klavulanat tedavisiyle taburcu edildi. Bir hafta sonraki kontrolünde aktif şikayeti yoktu ve servikal grafileri normal olarak saptandı.

Sonuç: Viral krup tanısıyla izlenirken uygun semptomatik tedaviye rağmen dirençli stridorla karşılaşılması, altta yatan derin boyun enfeksiyonları gibi hızlı ilerleyen, ciddi nedenler açısından uyarıcı olmalıdır. Özellikle küçük çocuk hastalarda semptomların tam ifade edilememesi ve muayeneye kooperasyonun tam olmaması gibi nedenlerle tanı koymak zorlaşsa da, hızlı ve uygun tanı prognozu olumlu yönde etkileyecektir.

Anahtar Kelimeler: Çocuk, retrofarengeal apse, persistan stridor

ABSTRACT

Introduction: Stridor is a rough respiratory sound encountered during upper respiratory tract infections due to narrowing of the upper respiratory tract. Although viral croup is the most frequent reason of acute stridor in children, serious underlying disorders like retropharyngeal abscess can be experienced when there is unresponsiveness to symptomatic treatment.

Case Report: A 13-month-old boy was admitted with cough, stridor, and difficulty in breathing. He had fever and rhinorrhea for 3 days, a week ago. On admission, his body temperature was 37°C, heart rate was 114/min, and respiratory rate was 36/min. His physical examination was otherwise normal, except stridor. Head movements were normal. White blood cell count 13,600/mm³, C-reactive protein 146 mg/L, erithrocyte sedimentation rate 111/hr. Chest X-ray, viral PCR (nasopharyngeal swab), serum viral serologies were normal. His complaints did not resolve with nebulized racemic epinephrine (0.05 ml/kg/dose) and oral dexamethasone (0.15 mg/kg/dose). On the second day of hospitalization, limitation in head movements, difficulty in swallowing, and increase in secretions were seen. Lateral X-ray showed prevertebral soft tissue thickening (2 cm) that was extending to upper mediastinum, narrowing of pharyngeal air column, and anterior displacement of tracheal air column. Posteroanterior chest X-ray showed slightly deviation of upper tracheal air column to right side. Computerized tomography of neck region revealed a retropharyngeal fluid collection between C1-T4, and 6.5 x 3 x 9.5 cm in diameters. The abscess was drained and ampicillin-sulbactam (200 mg/kg/day), and clindamycin (40 mg/kg/day) treatments were started. Histopathological examination of the abscess fluid was compatible with infection and culture grew methicillin sensitive *Staphylococcus aureus*. He improved clinically and after 14 days duration of intravenous antibiotic treatment, he was discharged with peroral amoxicillin-clavulanate treatment. After 1 week, he had no signs and symptoms regarding deep neck infection, and X-ray of neck was normal.

Conclusions: Persisting stridor encountered despite appropriate symptomatic management of viral croup should be alerter about underlying, rapidly progressing, serious causes such as deep neck infections. Especially in small children, subtle or unrecognized signs and symptoms and low cooperation during physical examination make it difficult to diagnose, nevertheless, rapid and prompt diagnosis positively affects the prognosis.

Key words: Child, retropharyngeal abscess, persistent stridor

INTRODUCTION

Upper respiratory tract infections (URTIs) are among the most common reasons for admission to hospital in childhood period. Stridor is a rough, crowing breath sound seen during URTIs, occurring as a result of passage of air through a narrowed extrathoracic trachea, larynx, and hypopharynx [1]. Viral croup is the most common cause of acute stridor in childhood [2]. To manage stridor in a child comprises mostly symptomatic relief of viral croup unless concomitant symptoms that are evocative for other reasons are present. Sometimes, serious reasons like retropharyngeal abscesses (RPA) may underlie stridor.

In here a case of 13-month-old boy, who presented with persistent stridor, and was diagnosed as retropharyngeal abscess is presented.

CASE REPORT

A 13-month-old boy was admitted with complaints of cough, stridor, and difficulty in breathing. He had fever and rhinorrhea for 3 days, a week ago. His family denied any previous and familial illnesses. His

body temperature was 37°C, heart rate was 114 beats/min, and respiratory rate was 36 /min on admission. He had fine general appearance, free head movements, but had stridor. Blood investigations revealed leukocyte count, 13,600/mm^3 with peripheral blood smear 76% neutrophils; C-reactive protein, 146 mg/L; and erythrocyte sedimentation rate, 111 mm/h. Serum electrolytes, liver and renal function tests were normal. Chest X-ray was normal (Figure 1A). Viral polymerase chain reaction analysis of nasopharynx swab (Coronaviruses [HKU1, 229, 63, 43], Parainfluenza [1, 2, 3, 4], RSV [A, B], Rhinovirus, Adenovirus, Enterovirus Parechorovirus, FluA [H1N1], Influenza [A, B], Human metapneumovirus, and Human bocavirus) revealed no positivity. IgM serologies for toxoplasmosis, cytomegalovirus, rubella, and Ebstein-Barr virus viral capsid antigen were negative. Urine and blood cultures yielded no growth. He was started nebulized racemic epinephrine (0.05 mL/kg per dose) and oral dexamethasone (0.15 mg/kg per dose) in case of croup. His complaints did not resolve despite of multiple doses. At the end of second day of hospitalization, limitation in head movements, inability in swallowing, and increased secretions were realized. Lateral cervical and chest radiography showed prevertebral soft tissue thickening (2 cm) that was extending to the upper mediastinum, narrowing of pharyngeal air column, and anterior displacement of tracheal air column (arrow head) (Figure 1B). Posteroanterior chest radiography showed slightly deviation of upper part of tracheal air column to the right side (Figure 1C). Computerized tomography (CT) of neck region revealed a retropharyngeal fluid collection between C1 and T4 vertebra, that was 6.5x3x9.5 cm in diameters, and in 28 HU density (It was compatible with abscess). It was shown that the abscess caused narrowing of pharyngeal air column and displacement of trachea anteriorly (Figure 2A). Left internal jugular vein was thrombosed (arrow) (Figure 2B).

The abscess was drained and the jugular thrombus was considered to be secondary to infection. Ampicillin-sulbactam (SAM) (200 mg/kg/day), and clindamycin (40 mg/kg/day) treatments were started. Histopathological examination of the abscess fluid revealed abscess material with necrotic exudate and culture grew methicillin sensitive *Staphylococcus aureus*. Clindamycin was discontinued. Investigation regarding predisposition to hypercoagulability (levels of protein C, S, anti-thrombin 3, blood coagulation factors, activated protein C resistance, factor 5 Leiden and MTHFR mutations, etc.) revealed no abnormality. Ten days later, jugular vein Doppler Ultrasound revealed no ongoing thrombus and he was started enoxaparin sodium. He improved clinically and after 14 days duration of SAM treatment, he was discharged with per oral amoxicillin clavulanate treatment. After 1 week, he had no signs and symptoms regarding deep neck infection. Lateral cervical and chest radiography showed no soft tissue thickening. Follow-up was planned for jugular vein thrombosis.

DISCUSSION

Upper respiratory infections may complicate as a result of invasive causative agents or treatment failures and induce deep neck infections. Retropharyngeal abscesses generally occur as a consequence of suppurative adenitis of retropharyngeal lymph nodes, which drain from the nasopharynx, oropharynx, nose, paranasal sinuses, adenoids, tonsils and middle ear in early childhood [3]. As a result of communication between neighboring structures, severe complications like mediastinitis, airway compromise, vascular occlusion of the large neck vessels, sepsis, and penetration into spinal structures may arise in a short time [4]. Deep neck infections, including RPA have a mortality of 6.2% in children [5]. Prompt and accurate diagnosis of RPA is indispensable. Clinical suspicion besides supportive imaging studies are mainstay of diagnosis.

Retropharyngeal abscess is sometimes overlooked due to subtle or unrecognized clinical findings. Striking and prominent signs and symptoms like fever, toxic appearance, difficulty in speaking, oropharyngeal swelling, limitation of neck movements, and cervical swelling/lymphadenopathy may be

absent in a patient with RPA in especially small children [3]. Unfortunately, they also cannot express their complaints precisely except restlessness, or cannot cooperate during physical examination. And this makes the diagnosis challenging. Although RPA is noted as one of the causes of stridor, which was the most distinctive sign of this patient, it is not a frequently encountered sign with RPAs, as reported in previous studies [3, 6]. Anyway, rapidly development of RPA should be of concern in a child presenting with intractable stridor and no other prominent signs or symptoms, and especially who is unresponsive to symptomatic viral croup treatment as in this case. Plain radiographs are supportive for diagnosis, show widened pre-vertebral soft tissues on lateral view of the neck [6], although they may lead to false positivity [4]. Computed tomography is the preferred imaging technique, with high sensitivity, high negative predictive value, ability to localize the abscess, and the ability to assess for potential complications as well as aid with surgical planning [4]. Nevertheless, in the event that there is a solitary, isolated retropharyngeal abscess, the tomographic image may be also misdiagnosed as cellulitis false-positively [7].

Staphylococcus aureus, which is one of the most frequently isolated causative agents in RPAs, was revealed in this case [3, 6]. Intravenous antibiotics, which are irrevocable treatment approach in the management of RPA, were administrated accordingly, and also concomitant surgery was carried out. Although the requirement of surgical approach continues to be a matter of discussion, surgical drainage of the RPAs with diameter bigger than 2 cm on CT scan was reported to result in a high cure rate [8].

CONCLUSIONS

History of upper viral respiratory infection and persisting stridor despite intense symptomatic treatment of viral croup may attract attention about underlying or rapidly progressing serious causes such as deep neck infections, despite subtle findings in small children. Rapid and prompt diagnosis is important not to delay treatment and increase morbidity and mortality.

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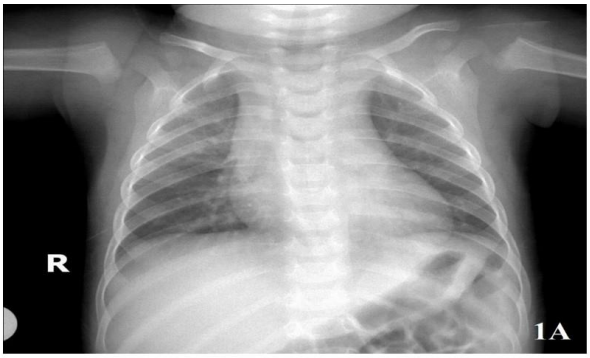
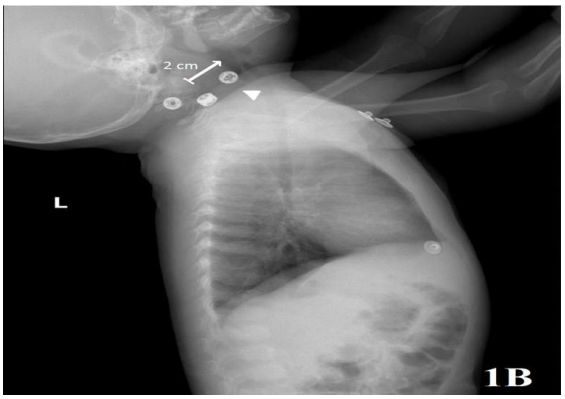
FIGURE LEGENDS





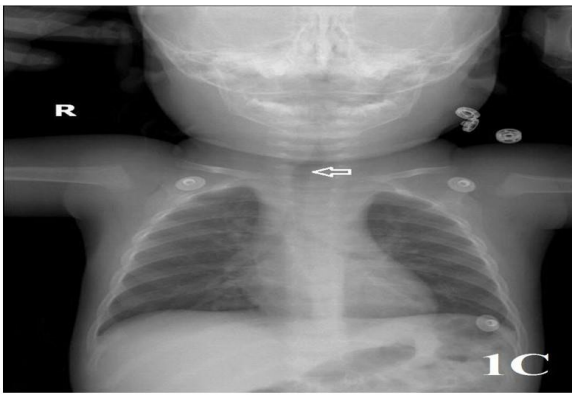
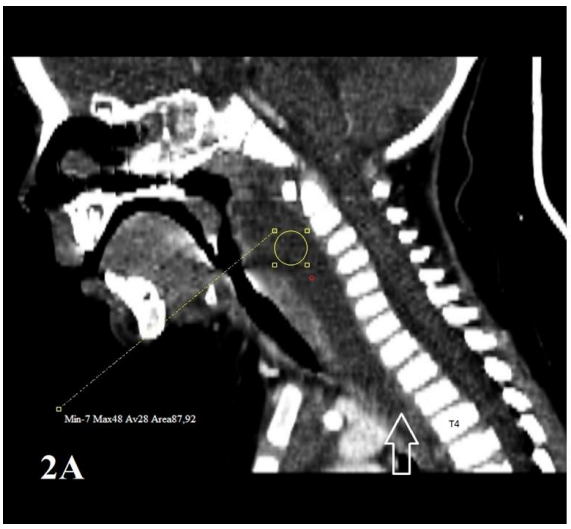


Figure 1A. Chest X-ray was normal at admission.

Figure 1B. Lateral cervical and chest radiography showed prevertebral soft tissue thickening (2 cm) that was extending to the upper mediastinum, narrowing of pharyngeal air column, and anterior displacement of tracheal air column (arrow head).

Figure 1C. Posteroanterior chest radiography showed slightly deviation of upper part of tracheal air column to the right side.



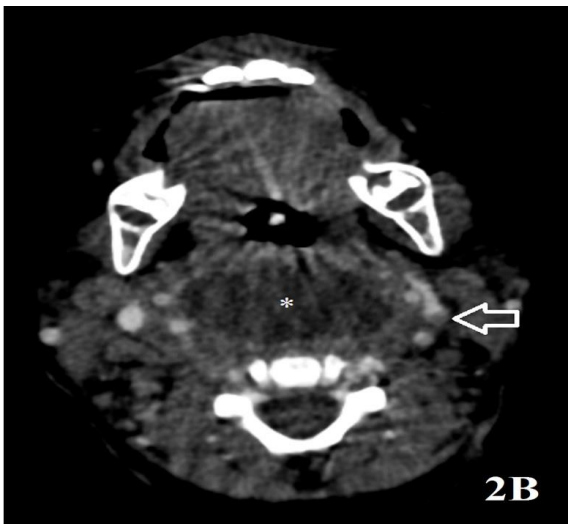


Figure 2A&**2B**. Computerized tomography of neck region revealed a retropharyngeal fluid collection that was 6.5x3x9.5 cm in diameters (asterisk), and in 28 HU density. It was extending through the

prevertebral space, between the level of first cervical vertebra (C1) and forth thoracic vertebra (T4). It was shown that the abscess caused narrowing of pharyngeal air column and displacement of trachea anteriorly. Left internal jugular vein was thrombosed (arrow).