

A case of Kawasaki disease preceding a retropharyngeal abscess

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= Abstract =

Epidural hematoma (EDH) is relatively rare in newborn infants and frequently associated with instrumental deliveries or other complications during labor and delivery. Although surgical evacuation has been the most common therapy, many other procedures have been suggested. Although many epidural hematomas require surgical evacuation rather than non-surgical management, the conservatiob or aspiration of hematoma have been attempted. In the case of EDH associated with cephalhematoma, aspiration of cephalhematoma could be attempted because frequent features of these combination were communication between these hematoma. We report a case of successful nonsurgical management for epidural hematoma through the aspiration of accompanying cephalhematoma in a five-day-old newborn infant. (**Korean J Pediatr 2008;51:542-545**)

Key Words : Kawasaki disease, Retropharyngeal abscess

Introduction

Kawasaki disease was known as an acute febrile mucocutaneous lymph node syndrome that can lead to coronary artery aneurysm and thrombosis in children. The etiology of KD remains unknown, and no specific diagnostic assay exists. Therefore, diagnosis of Kawasaki disease is base upon clinician's recognition of a symptom that includes high fever for more than 5 days together with four of five clinical criteria: nonpurulent bulbar conjunctivitis; changes in the lips or oral cavity; polymorphous exanthem; erythema with later desquamation of the extremities; and, at least one cervical lymph node greater than 1.5 cm in size. Atypical Kawasaki disease may be diagnosed on the basis of fever in addition to two or three of the additional symptoms and its diagnosis may be difficult.

Head and neck manifestation of Kawasaki disease includes cervical lymphadenitis, parotitis, otitis media, epiglottitis, peritonsillar abscess or peritonsillar cellulitis and less commonly retropharyngeal abscess (RPA). But Kawasaki disease is rarely diagnosed in patients with only those findings not

having characteristic symptoms and in that case, appropriate diagnosis and treatment of Kawasaki disease is frequently delayed.

In the presenting report, we demonstrate a case of Kawasaki disease preceding a retropharyngeal abscess and present a review of the literature concerning similar cases.

Case report

A previously healthy 5-year-old girl presented with fever for 2 days and right anterior neck swelling, pain, torticollis and odynophagia for 1 day. No other respiratory, gastrointestinal, urologic and neurologic symptoms were presented.

On admission, her body temperature was 38.7°C, heart rate was 110/min, respiratory rate was 24/min and blood pressure was 90/60 mmHg. On examination, she had acutely ill appearance, her breathing sounds were clear in both lung field and heart beat was regular without murmur. There was no hepatosplenomegaly.

On head and neck examination, firm lymph node enlargement of the right jugular chain and cervical lymph node on posterior triangle of neck was noted. The largest node, measuring 4×3 cm, was in the right posterior triangle of neck. It was tender to palpation and had overlying erythema, but there was no fluctuation.

A complete blood count showed white blood cell count, 19,400/ μ L (band, 3%; neutrophils, 82%; lymphocyte, 12%; monocyte, 3%), hematocrit, 36.0% and platelets, 274,000/ μ L.

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Erythrocyte sedimentation rate was 42 mm/hr and C-reactive protein was 17.4 mg/dL. Pyuria was revealed in urinalysis and AST/ALT were 21/5 IU/L.

The results of antistreptolysin O titer was 154 IU/mL and blood culture is negative. Throat culture and urine culture were all negative. Serologic test for EBV was also negative.

A lateral neck X-ray revealed a widening of retropharyngeal space and computed tomography (CT) of the neck revealed diffuse low density lesion (near fluid density) on the retropharyngeal space from the oropharynx to upper level of thyroid gland. In addition, there were fluid collection in retropharyngeal space, parotid gland swelling, oropharyngeal wall swelling and tonsillar swelling in CT scan of neck (Fig. 1). Thus, the patient was diagnosed with a retropharyngeal abscess and initiated intravenous injection of ceftriaxone and clindamycin. But no improvement in the symptoms was noted after 4 days.

On the fourth hospital day, the fever persisted and erythematous and papular rash developed on both hands and feet. On the fifth day, injected bulbar conjunctiva, fissured lip and strawberry tongue appeared. Since the patient showed all the diagnostic criteria of Kawasaki disease, we prescribed intravenous immunoglobulin and high dose aspirin and stopped antibiotics. On echocardiogram, she had dilation of left anterior descending artery (4.3 mm) without aneurysm formation.

After 24 hours of prescription of IVIG and aspirin, the fever subsided and her symptoms (rash, injected bulbar conjunctiva, fissured lip and strawberry tongue) quickly resolved.

A repeat CT scan on 8th hospital day showed decreased inflamed fluid collection, infiltrative change of retropharyngeal space and decreased swelling of parotid gland and tonsil in comparison to prior CT scan (Fig. 2).

The patient was discharged on the tenth hospital day with prescription of low dose aspirin.

Discussion

Kawasaki disease is an acute illness of young children and infants typically characterized by fever, conjunctivitis, oral and pharyngeal mucosal involvement, skin rash, and cervical lymphadenitis¹. Cervical lymphadenitis is the least common of the diagnostic findings, occurring in 67-87% patients of Kawasaki disease^{2,3}. In approximately 12% of patients, cervical lymphadenopathy was the initial presenting symptom¹. Additionally, Kawasaki disease may present with symptoms of deep neck infections, such as a peritonsillar abscess, peritonsillar or deep neck cellulitis, suppurative parapharyngeal space infection and retropharyngeal cellulitis or mass^{4,5}. However these symptoms are rarely present in Kawasaki disease. Therefore when presented with those sym-

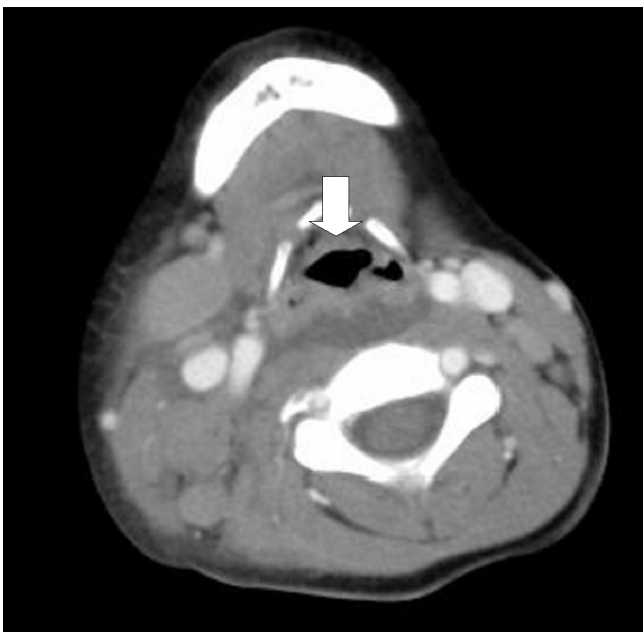


Fig. 1. CT scan of neck demonstrating widening of the retropharyngeal space with a central hypodense lesion, suggestive of a retropharyngeal abscess.

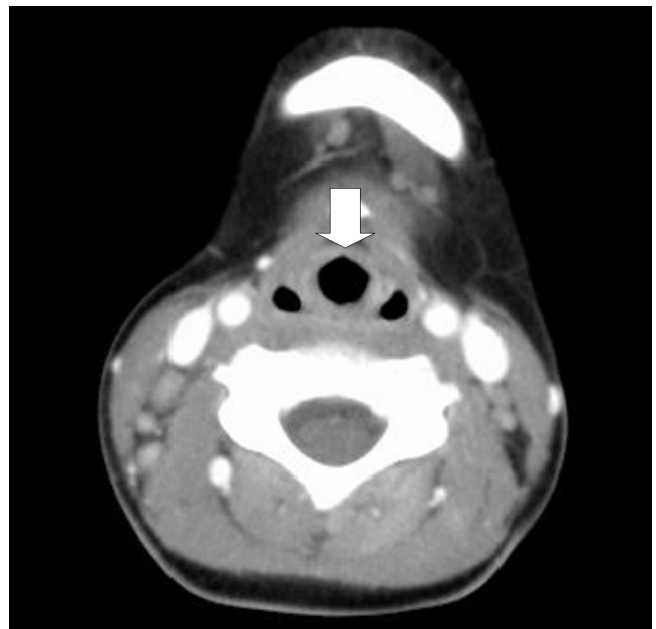


Fig. 2. A repeat CT scan on eighth hospital day, showing decreased inflamed fluid collection, infiltrative change of retropharyngeal space, and swelling of parotid gland and tonsil in comparison to prior CT scan.

ptoms, it is more difficult to diagnose Kawasaki disease, and usually the diagnosis is delayed⁶⁾.

RPA is the collection of pus in retropharyngeal space^{7,8)}. It can progress suddenly from an indolent, contained disorder to a rapidly progressive and life threatening infection. Several studies have reported that over 95% of RPA cases occur in children under the age of 6 years. In children RPA is mostly associated with viral upper respiratory tract infection, pharyngitis and otitis media. All these infections cause adenopathy of retropharyngeal lymph nodes and suppuration giving rise to RPA formation^{7,8)}. The most frequently reported organisms previously in RPA culture included group A β -hemolytic streptococci, *S. aureus*, *Hemophilus influenza* and *Klebsiella species*^{9,10)}. Common presenting symptoms were neck pain, decreased oral intake and odynophagia and most patients had a fever, neck swelling and cervical lymphadenopathy. Lateral cervical radiograph was diagnostic in 80% and a cervical CT scan in 95%¹¹⁾.

RPA were treated with empirical antibiotics in combinations. The new generation of cephalosporins are the antibiotics of choice currently. If the antibiotic therapy fails, the abscess must be drained and expectantly managing the airway, with short-term intubation preferred when necessary¹²⁾.

According to several studies, four patients had demonstrated a retropharyngeal abscess or cellulitis as one of the initial findings prior to correct diagnosis. In all cases, the diagnosis of retropharyngeal abscess was made as an incidental finding on CT scan of the neck. No operative intervention was performed in three of these cases¹³⁻¹⁵⁾. In the third patient, tried drainage and culture of the retropharyngeal fluid, but an abscess cavity could not be identified¹⁶⁾. In all of the above presentations, fevers continued despite therapy with antibiotics. Correct diagnosis was eventually made in all cases as additional signs and symptoms of Kawasaki disease developed and appropriate therapy was eventually instituted.

Similar to this presenting case, Hung et al. reported a case of Kawasaki disease initially presenting only painful cervical lymphadenopathy and that case revealed retropharyngeal abscess in neck CT. In spite of intravenous antibiotics, no improvement of fever was noted. But the fever subsided 24 hours after the prescription of IVIG and aspirin and sonogram of the neck revealed a reactive lymphadenopathy with no evidence of the retropharyngeal abscess¹⁷⁾.

In this case, the patient had demonstrated a retropharyngeal abscess as initial findings prior to diagnosis of Ka-

wasaki disease. Retropharyngeal abscess found on CT scan of the neck, treated as a retropharyngeal abscess, but showed no improvement with the antibiotics. Additional signs and symptoms of Kawasaki disease developed and diagnosis of Kawasaki disease was eventually made. IVIG and aspirin therapy were instituted, symptoms was resolved but cardiac complication was occurred.

Currently Kawasaki disease become generally known as the leading cause of acquired cardiac disease in the children. Approximately 20% of patients will develop cardiovascular manifestation such as aneurysm formation, obstruction, thrombosis, myocardial infarction, and pericardial effusion¹³⁾. Not all of the diagnostic features of Kawasaki disease can be observed in the disease presentation. On that reason the diagnosis of Kawasaki disease is usually delayed, more cardiac complication is developed.

In conclusion, Kawasaki disease may have numerous signs and symptoms as reported in the literature. Occasionally patients of Kawasaki disease may be initially diagnosed deep neck infection. As this case, once fever becomes refractory to treatment with broad-spectrum antibiotics, it should consider about the possibility of Kawasaki disease. A correct diagnosis and appropriate treatment Kawasaki disease differentiating other kinds of deep neck infections is important to prevent subsequent cardiac involvement.

한 글 요 약

인두 후부 농양이 선행된 가와사끼병 1례

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가와사끼병은 대부분 급성 전신성 질환으로 나타나지만 드물게 편도 주위 농양, 인두 주위 농양, 인두 후부 농양 등 두경부 응급 질환의 양상으로 발현될 수 있다. 이러한 비전형적 임상 양상으로 나타날 경우 인두 주변부 농양에 대한 수술적 조치를 결정하기 전에 가와사끼병을 정확하게 진단하는 것은 매우 중요하다. 저자들은 인두 후부 농양으로 발현된 가와사끼병 1례를 경험하였기에 보고하는 바이다.

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