Benign Childhood Myositis: A Disease That Should Be Considered In The Differential Diagnosis Of A Child Who Acutely Refused To Walk

BENİN ÇOCUKLUK ÇAĞI MYOZİTİ: AKUT OLARAK YÜRÜMEYİ REDDEDEN BİR ÇOCUKTA AYIRICI TANIDA DÜŞÜNÜLMESİ GEREKEN BİR HASTALIK

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SUMMARY

Benign childhood myositis is a disease of childhood which is characterised with calf pain and sudden onset of refusal to walk. The disease must be differentiated from more serious causes of refusal to walk or limb pain. Elevated creatin kinase, muscle tenderness, normal muscle power and deep tendon reflexes are the most important clues to reach the diagnosis. We report an eight year old boy who presented with acute onset of inability to walk. Based on history, clinical and laboratory findings, the diagnosis of benign childhood myositis is established. All pediatricians should be aware of this condition in order to prevent unnecessary investigations.

Key words: Calf pain, child, creatin kinase, influenza virus, myositis

ÖZET

Benign çocukluk çağı myositi, baldır ağrısı ve ani olarak yürümeyi reddetme ile karakterize bir çocukluk çağı hastalığıdır. Bacak ağrısı ve yürümeyi reddetmeye yol açacak çok daha ciddi hastalıklardan ayrımı yapılmalıdır. Artmış kreatin kinaz, kaslarda hassasiyet, normal kas gücü ve derin tendon refleksleri tanıya ulaşmada en önemli ipuçlarıdır. Bu yazıda ani olarak yürüme yetisini kaybeden sekiz yaşında bir erkek hasta sunulmaktadır. Vakaya öykü, klinik ve laboratuar bulguları ile benign çocukluk çağı myositi tanısı konulmuştur. Gereksiz incelemeleri önlemek için tüm pediatristler bu hastalık hakkında bilgi sahibi olmalıdır.

Anahtar sözcükler: Baldır ağrısı, kreatin kinaz, influenza virüs, myosit

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Benign childhood myositis is characterized by severe pain and tenderness in the calves of both legs which occur suddenly with difficulty in walking (1). It frequently follows a viral respiratory tract infection, particularly influenza A or B (2). Boys are affected more commonly and rapid recovery is a characteristic clinical finding. Serum creatine kinase (CK) and aspartate aminotransferase (AST) elevate in the acute phase and return to normal levels with resolution of the disease.

CASE REPORT

A previously well 8-year-old boy was admitted with 4-day history of fever, cough and headache and 1-day history of bilateral leg pain and refusal to walk. On the day of presentation, he was not able to wake up from the bed and he requested to be carried by his parents. There was no family history of a musculoskeletal disease.

In his physical examination, the body weight was 22 kilograms (50-75 percentiles), the length was 129 centimetres (10-25 percentiles) and the head circumference was 50 centimetres (10-25 percentiles). He had a wide-based gait with flexed hips and extended knees and he was walking on his toes. Palpation of the gastrocnemius-soleus muscles revealed diffuse tenderness. There was full range of movement at all joints. The muscle power and deep tendon reflexes were normal. The remainder of the physical examination revealed no abnormality except

a sore throat.

Laboratory examinations performed during the acute phase of disease revealed leukopenia (white cell count 4.1 x 10^9/L; normal range 5.0-17.0 x 10^9/L), neutropaenia (0.8 x 10^9/L; normal range 1.0-8.5 x 10^9/L) and elevated serum CK (3262 U/L; normal range 25-185 U/L) and AST (144 U/L; normal range 15-55 U/L). Peripheral blood smear demonstrated lymphocytosis consistent with a viral illness. Erythrocyte sedimentation rate and C-reactive protein levels were in normal limits. Serologic analysis for influenza A was positive by complement fixation.

Based on history, clinical and laboratory findings, the diagnosis of benign childhood myositis was established. The case was advised bed rest and simple analgesics. One week later, control physical examination revealed no abnormality and two weeks later, CK returned to normal levels (105 U/L; normal range 25-185 U/L).

DISCUSSION

Benign childhood myositis is mainly a disease of childhood which occurs in genetically susceptible individuals with an unknown metabolic defect of muscle provoked by a viral trigger. Sudden onset of calf pain and inability to walk during a viral illness are most important features of the disease. The mean age at onset of symptoms is 8 years and means duration of symptoms is 5 days (1). Consistent with the literature findings, the present case was 8-years old and he presented with acute onset of inability to walk and he recovered with in one week.

The pain primarily affects gastrocnemius-soleus muscles bilaterally but some cases may present with asymmetric involvement (3). The absence of immunoglobulin and complement in muscle biopsy specimens suggest that the disease occurs from direct invasion of the muscle by viral pathogens rather than an immune-mediated process (4). The infection is intense enough to damage muscles fibres, causing an elevation of CK.

Benign childhood myositis is most commonly associated with influenza B infection (2), but influenza A, adenovirus, parainfluenza, rotavirus and mycoplasma pneumonia are also encountered as causative agents (5-7). In the present case, serologic analysis by complement fixation was positive for influenza A virus.

It is important to differentiate benign childhood myositis from more serious causes of refusal to walk or limb pain. Most of the cases are referred to pediatric neurology departments with a diagnose of Guillan Barre syndrome (8). An elevated CK combined with normal muscle power and preserved deep tendon reflexes help to differentiate benign childhood myositis from Guillan Barre syndrome. Careful examination of the joints is also mandatory to differentiate benign childhood myositis from rheumatologic diseases such as post-infectious arthritis and toxic synovitis. In the present case, the muscle power and deep tendon reflexes were normal and there was full range of movement at all joints.

In conclusion, benign childhood myositis is a self-limiting disease with a good prognosis. Pediatricians and pediatric neurologists must be aware of this condition to avoid unnecessary investigations and to differentiate this condition from other causes of acute onset of inability to walk.

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