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■ Case report ■

A case of congenital syphilis mistaken for possible child abuse

Soon Ju Kim, M.D., Seung Woo Lee, M.D., Jung Woo Rhim, M.D., You Sook Youn, M.D., Jun Sung Lee, M.D., Kyung Yil Lee, M.D. and Ja Young Hwang, M.D.

Department of Pediatrics, College of Medicine, The Catholic University of Korea, Seoul, Korea

= Abstract =

We describe the case of a 4-month-old male infant diagnosed with early congenital syphilis during evaluation of a left distal humerus fracture. This report emphasizes the importance of screening for syphilis among pregnant women and newborns, and is a reminder of the continued existence of congenital syphilis. **(Korean J Pediatr 2009;52:710-712)**

Key Words : Congenital syphilis, Periostitis, Child abuse

Introduction

Congenital syphilis is a rare but preventable serious disease that remains a major health-care problem[1]. With the advent of penicillin in the 1940s and the establishment of its effectiveness in treating syphilis, it was considered a disease of the past; however, congenital syphilis persists in developing countries[2]. In the present case, multiple osteochondritis and periostitis of congenital syphilis combined with a spontaneous fracture were misdiagnosed as child abuse. We report a case of incidentally diagnosed early congenital syphilis that presented as a fracture of the left distal humerus in a 4-month-old.

Case report

A 4-month-old boy presented to the pediatric outpatient department of a general hospital complaining of limited motion in his left arm. His parents had lived apart since his birth, and he had been living with his father until being committed to a child-care institution 10 days prior to presenting at the hospital. He was born by vaginal delivery at about 37 weeks at home and weighed about 2,000g. He was the first baby of a 34 year-old father and a 26 year-old mother. He had not received medical treatment except routinely scheduled vaccination. Physical examination revealed cutaneous lesions consisting of a pale maculopapular rash with fine superficial desquamation, particularly on the palms and soles, dysmorphic face due to prominent frontal bumps and a flat nose, mild swelling in the left forearm without bruising or ecchymoses, and hepatosplenomegaly. His height was 60 cm, weight was 6 kg, head circumference was 41.5 cm, all below the 10th percentile.

Radiographic examination of the infants long bones of the upper limbs revealed periosteal reaction in the mid to distal shaft of the left humerus and an ill-defined osteolytic lesion with a pathologic fracture in the distal metaphysis (Fig. 1). There was periosteal reaction in the mid to distal shaft of the right humerus. An additional ill-defined osteolytic lesion was seen in the right distal ulnar metaphysis.

Child abuse was suspected and a full investigation was performed. Laboratory studies found anemia (hemoglobin 9.8 g/dL, hematocrit 30.3%) with normal leukocyte and platelet counts. Elevated aminotransferase activities were noted (aspartate aminotransferase 237 IU/L and alanine aminotransferase 173 IU/L). Toxoplasmosis, other, rubella, cytomegalovirus, herpes (TORCH) serological tests were performed due to elevated liver enzymes, organomegaly, and absent maternal antenatal screening test. Both the venereal disease research laboratory (VDRL) test and the fluorescent treponemal antibody absorption (FTA-ABS) IgG and IgM tests were reactive. His VDRL tilter was 1:64. Toxoplasma, rubella, cytomegalovirus, herpes, and Acquired Immune Deficiency Syndrome serological tests were all negative. The patient was diagnosed with congenital syphilis. Further investigations were

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Address for correspondence : Ja-Young Hwang, MD
Department of Pediatrics, The Catholic University of Korea, Daejeon St. Mary's Hospital, 520-2 Taeheung-dong, Jung-gu, Daejeon 301-723, Republic of Korea
Tel : +82.42-220-9846, Fax : +82.42-221-2925
E-mail : HJY@catholic.ac.kr

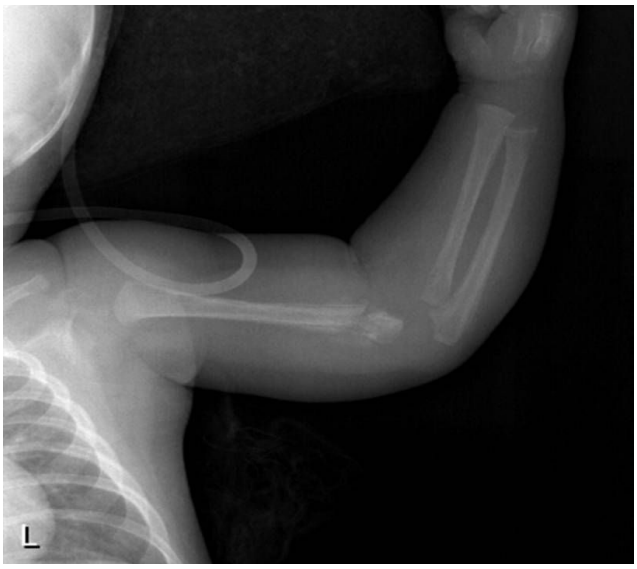

Fig. 1. Radiograph of the left humerus shows periostitis in the mid to distal shaft and an ill-defined osteolytic lesion with a pathologic fracture at the distal humeral metaphysis.

performed: brain magnetic resonance imaging and eye examinations were normal. Examination of the cerebrospinal fluid revealed 3 white blood cells/mm^2, and protein and glucose levels of 41 and 55 mg/dL, respectively; VDRL test was non-reactive. Auditory evoked potential examination at 75 dB showed prolonged latency of wave III and prolonged interpeak latency of I, II, and III. We plan a follow-up auditory evoked potential examination in 3 months.

The infant was treated with intravenous aqueous penicillin G 150,000 U/kg/day for 14 days. The mothers history was re-evaluated. After becoming pregnant, she received no antenatal screening at health facilities and delivered at home. She hasn t been treated for syphilis. She was screened for syphilis during the childs admission: VDRL tilter was 1:128 and fluorescent treponemal antibody absorption was reactive. She was prescribed treatment for syphilis. The father was also evaluated and treated. A repeat skeletal survey of the child 1 week after initiation of treatment demonstrated complete fusion of the left distal humerus fracture.

Discussion

Diagnosis of congenital syphilis is potentially difficult because clinical manifestations can involve several organs[3], their severity may vary significantly, and because of limited awareness of the disease among healthcare providers. Our case was not recognized at birth, and diagnosis was later elicited by a bone fracture, accompanied by skin lesions.

The radiographic findings in syphilis are bony lesions such as osteochondritis; or metaphysitis, periostitis and osteitis; or osteomyelitis and pathologic fractures. The most common lesions affect the metaphyses with altered mineralization or bony lysis. The zone of provisional calcification may become dense and thick, whereas the opposite extreme, a transverse lucent band of demineralization, may occur at the juxtaepiphyseal zone[4]. The characteristic radiographic appearance is one of bilaterally symmetrical diffuse skeletal involvement[5], The bony lesions heal completely after treatment, with normal growth during the first 2 years of life, and without residual deformity[6]. Some authors, however, state that persistent bony lesions do not heal with conventional penicillin treatment, resulting in angular deformities, shortening of the limb, and pseudoarthrosis following pathological fractures[4].

A correct diagnosis may be difficult in the absence of the classical presentation of bilaterally symmetrical osteoperiostitis. A previous case report states that fractures that are complications of congenital syphilis can mimic child abuse[7]. The radiographic findings have been confused with those of child abuse, the diagnostic features of which are multiple lesions at different stages of healing and repair, with an exuberant periosteal reaction and a predilection for the metaphyses[8]. In most cases, the diagnosis of child abuse rests on a high index of suspicion in the course of physical examination and family history. The radiological features of child abuse may overlap with those of congenital syphilis, especially in the case of diaphyseal lesions. In congenital syphilis, pathological fractures commonly occur through the metaphysis; however, the diaphysis of a long bone may occasionally fracture[9].

Caffey[8] and Solomon and Rosen[10] ascribed some bone lesions of congenital syphilis to trauma; these fractures and associated new bone formation at the bone ends were considered to reflect the fact that disorganized, fragile bone is susceptible to injury, even with minimal handling.

Our patient presented with nonpruritic maculopapular rash, which can cover the entire body, most notably involving the palms and soles at birth; it gives the impression of urticaria pigmentosa and can be managed at a local dermatologic clinic. The bony lesions were first detected in the infants left humerus as a limitation of motion at 4 months of age. Skeletal survey revealed multiple bone lesions in the extremities. These

injuries appeared to fit with repeated skeletal trauma and were considered to be consistent with a diagnosis of child abuse. But when diagnosis a fracture in A 4−month− old child who is committed to a child care institution, we should ask whether his mother received antenatal care. If he is a high risk group mother s baby, we should try to find out other disorder involving bony structure rather than making a hasty conclusion that he was suffering wrong.

한 글 요 약

아동학대로 오인했던 선천성 매독 1예

가톨릭대학교 의과대학 소아과학교실

김순주 · 이승우 · 임정우 · 윤유숙 · 이준성 · 이경일 · 황자영

선천성 매독은 매우 드문 질환이기는 하나 심각한 질환을 유발할 수 있어 모자보건의 주요부분을 차지하고 있다. 4개월 남아가 좌측 팔의 운동장애로 내원하여 시행한 방사선 사진에서 상완골 골절이 발견되었으며 아동학대가 의심되어 시행한 추가 검사에서 선천성 매독으로 진단되었고 환아와 환아 부모에 대한 치료가 이루어졌다. 저자들은 이 환아의 진단과 치료과정에 대해 보고하면서 임산부와 신생아에 대한 매독선별검사의 중요성에 대해 강조하는 바이다.

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