A 9-WEEK-OLD girl was seen for a 12-day history of fever (38.5°C), vomiting, and refusal to move the left arm for 24 hours prior to admission. There was no history of trauma. She was born at 36 weeks' gestation by cesarean delivery because of fetal distress. On physical examination she was irritable, pale, and did not move her left arm in response to painful stimuli; she cried when it was manipulated at the shoulder. Movement of the right arm and both legs were normal. Laboratory findings included white blood cell count, 14.8 × 10^9/L, with differential showing myelocytes, 0.15 × 10^9/L; bands, 0.59 × 10^9/L; segmented neutrophils, 4.88 × 10^9/L; and lymphocytes, 8.14 × 10^9/L. Hematocrit was 0.23; reticulocyte count, 0.15; platelet count, 293 × 10^9/L; and erythrocyte sedimentation rate, 110 mm/h. Findings from serum chemistry, glucose-6-phosphate dehydrogenase activity, Coomb test, and blood cultures were normal. Radiographs of the shoulders and humeri were unremarkable. A 3-phase technetium 99m methylene diphosphonate bone scan was performed on the first and fifth hospital days with normal results. Axial computed tomography of the humeri (Figure 1) and additional long bone radiographs (Figure 2 and Figure 3) were obtained.
Denouement and Discussion

Congenital Syphilis Presenting as Osteomyelitis With Normal Radioisotope Bone Scan

Figure 1. Axial computed tomogram of the left humerus, performed on the 10th hospital day, shows extensive areas of osteolysis and cortical destruction of the proximal metaphysis. There is soft tissue swelling.

Figure 2. Frontal radiographs of the shoulders on the 10th hospital day show osteolytic metaphyseal lesions of both proximal humeri.

Figure 3. Radiographs of the long bones of the lower extremities (10th hospital day) show bilaterally symmetrical diaphyseal periostitis and metaphyseal lesions of both distal femora and proximal tibiae, a pathognomonic sign of congenital syphilis.

On the second hospital day, the infant’s serum VDRL test was 1:16. It rose 16-fold and reached a dilution level of 1:256 by the 10th hospital day. This result was 4 times higher than her mother’s serum VDRL test result (1:64). Findings from a serum microagglutination test for cerebrospinal fluid were normal, as were results of a cerebrospinal fluid VDRL test. The diagnosis of congenital syphilis was established. The infant was treated with intravenous cefuroxime sodium, 150 mg/kg daily, because hematogenous osteomyelitis was initially suspected. After the positive serum VDRL test result was reported, cefuroxime was replaced by intravenous aqueous penicillin G, 300,000 μg/kg daily, which was given for 14 days. The infant recovered completely.

The incidence of early congenital syphilis remains relatively high.¹² Early diagnosis and timely treatment are important to prevent serious complications. Congenital syphilis usually manifests during the first 3 months after birth with signs of fever, prolonged rhinitis, erythematous maculopapular rash of the palms and soles, hepatosplenomegaly, pseudoparalysis, and atypical lesions of early congenital syphilis. Computed tomography of the skeleton reveals an obliterative endarteritis secondary to binding of spirochetes to endothelial cells with inflammatory plasma cell–rich perivascular infiltration.¹¹–¹³ Spirochetes are identified in bone tissue by specific Dieterle stains.¹,¹⁴ Obliterative vasculitis leads to decreased blood flow, atrophy, focal necrosis, and diffuse interstitial fibrosis.¹¹,¹³,¹⁵ These changes may explain why the radioactive tracer does not accumulate at the site of syphilitic osseous lesions.

Accepted for publication June 27, 1999.

Reprints: Daniel Landau, MD, Department of Pediatrics B, Soroka Medical Center, PO Box 151, Beer Sheva 84101, Israel.

REFERENCES