Congenital Multifocal Osteomyelitis

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The occurrence of osteomyelitis in the newborn is uncommon. The incidence is reported to be 1 in 5200 consecutive life births(1). The condition is more frequent in males and in preterm infants(2). *Staphylococcus aureus* is the most common causative agent though streptococcus group B is also known to cause the disease(3). Neonatal osteomyelitis following septicemia is known but intrauterine multifocal osteomyelitis is very rare. Though there are reports of neonatal osteomyelitis in the Indian literature(4,5), to the best of our knowledge, this is the first case report of congenital osteomyelitis reported from this country.

Case Report

A one-day-old full term girl, 4th born to healthy consanguinous parents, had swelling on the right thigh and right shoulder at birth. She was born of an uncomplicated pregnancy and delivered at home. The mother was apparently well with no antenatal illness or no history of leaking membranes.

Child had vigorous cry and was able to suck well at the breast and weighed 2.2 kg at birth. On examination, she showed a long hard swelling on right thigh, moved the limb less often and cried on moving the right leg. A swelling was also present at the right shoulder with fluctuation. Movements at right shoulder were complete, but the child moved the right hand less often. A similar swelling was also found at right elbow. The cardiovascular and respiratory system examinations were normal. The liver was palpable 1.5 cm and spleen 1 cm below the costal margin. The child was alert and neonatal reflexes were normal.

Investigations showed the hemoglobin level of 9.8 g/dl, total leucocyte count of 8900 cells/cu mm, with polymorphs of 57%, lymphocyte 42% and eosinophils 1%. The VDRL of father, mother and baby were nonreactive. Blood culture showed skin contaminants while pus culture from right shoulder joint yielded *Staphylococcus aureus* sensitive to penicillin and oxacillin. The infantogram showed multifocal osteomyelitis involving both femora, right tibia, both humerii, right radius and right clavicle.

Incision and drainage under general anesthesia on the 4th day showed pus which was removed from right forearm and upper part of right thigh. Repeat aspiration of pus from right thigh was done on 7th day and plaster of paris slab was applied to the right leg. The patient was treated with parenteral crystalline penicillin and gentamicin for 3 weeks. She gained weight and was

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Received for publication: March 23, 1992; Accepted: September 3, 1992

discharged on oral pencillin for another 3 weeks.

On follow up, the child at 1½ years age had shortening of right leg with bony deformity. There was no limitation of movements at knee joint. Radiograph of right thigh showed shortening of femur (*Fig.*).

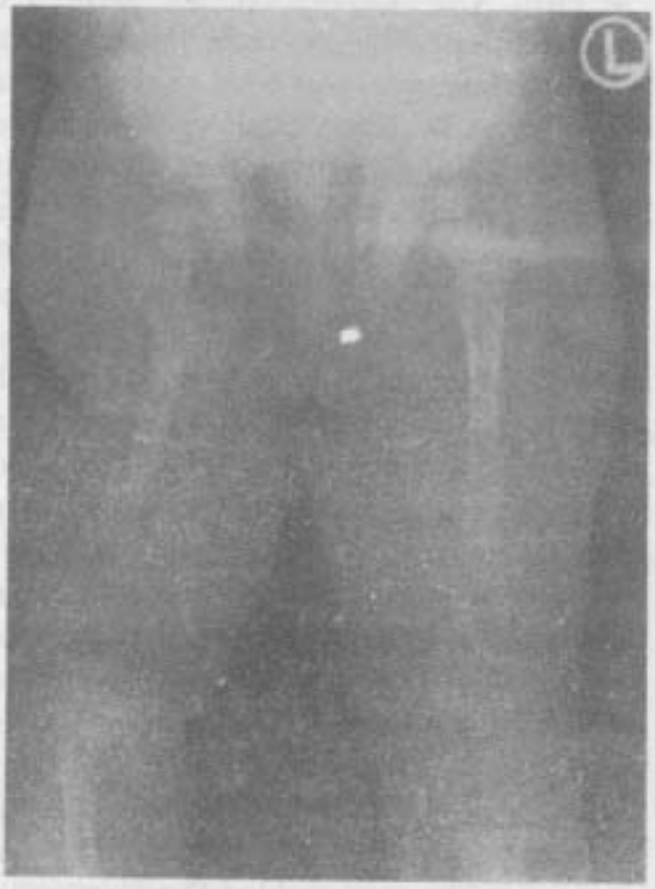

Fig. Radiograph showing deformity and shortening of right femur at 1½ years of age.

Discussion

Micro-organisms may reach the skeletal tissue of the fetus by direct inoculation or by extension of infection from surrounding tissues or as a consequence of maternal bacteremia with hematogenous transplacental infection and fetal sepsis. The last route is the commonest cause of osteomyelitis *in utero*(2). Blood borne dissemination of organisms with metastatic seeding of the skeletal system through nutrient arteries is the commonest mode of spread. Intrauterine osteomyelitis can occur through transplacental route even in the absence of apparent maternal illness(1). The metaphyseal cortex is thin and spongy with large vascular space. This permits early decompression of the primary abscess into the subperiosteal space. For this reason the infection is truly an osteitis rather than osteomyelitis(1).

Free communication between the original site of osteomyelitis and the subperiosteal space prevents spreading of infection. Sequestration is, therefore, uncommon. New bone formation is profuse, because of abundant vascular supply(1).

In the benign form of osteomyelitis in newborns, a low grade infection occurs and general health of the child is not greatly affected. Although deformity and disability may follow such infections mortality is rare(1).

Acknowledgements

The authors thank all the members of the Davangere Pediatric Research Foundation for their help.

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Fetus in Fetu

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The term "fetus in fetu" was used by Meckel in 1800 to describe the presence of a fetus within a fetus. The fetus in fetu is a monochorionic, diamniotic, monozygotic twin of its bearer due to anastomosis of vitelline circulation.

Case Report

An 8-month-old boy presented with progressively increasing painless lump in the abdomen of 1 month duration. There were no bowel or bladder symptoms. The child was the last sibling in a family of 5. There was no history of twin pregnancy.

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Received for publication: May 26, 1992;
Accepted: September 10, 1992

On examination the infant appeared well nourished, healthy and weighed 6 kg. There were no signs of dehydration or anemia. The abdominal examination revealed a round, firm, nontender mass approximately 10 × 8 cm in size, slightly movable in the transverse direction, with smooth surface and well defined margins except its upper margin. Plain *X*-ray of the abdomen revealed a soft tissue shadow in the left upper quadrant with long bones and an area of calcification. No vertebral column could, however, be seen. Intravenous urography revealed normal renal excretory function of both sides. A clinical diagnosis of retroperitoneal teratoma was made. At laparotomy, the mass was found retroperitonealy below the pancreas and anteromedial to the left kidney. The mass was well encapsulated and could be enucleated. The arterial supply to the mass was by a branch from the superior mesenteric artery and also posteriorly by tiny branches arising directly from the aorta. A large vein drained into the left renal vein from the tumor. The left adrenal was compressed. The left kidney was compressed superiorly by the tumor.

The tumor weighed 500 g. It was found to have an intact greyish brown thick fibrous sac with a fetus inside it (*Fig.*). The fetus was attached to the sac by an umbilical cord. The upper limb length was 13 cm, whereas the lower limbs were fused. The foot length was 2.5 cm with well developed nails. Fine lanugo hair were present over the head. The abdominal cavity contained intestinal loops.

Discussion

The "fetus in fetu" is defined as a vertebrate fetus included within the abdomen of its partner(1). A review of literature showed only 30 cases being reported dur-