

Images in clinical medicine



Congenital pseudoarthrosis of the tibia and fibula is managed with plate osteosynthesis and the Ilizarov method

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Congenital pseudoarthrosis of the tibia and fibula is managed with plate osteosynthesis and the Ilizarov method

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Image in medicine

Pseudo means false, and arthrosis means joint formation. Congenital pseudoarthrosis (CPT) of the tibia is a rare congenital anomaly. The incidence of it is one in 190,000 live births. Although rare, CPT of the tibia poses one of the most challenging management problems in pediatric orthopaedics. It is characterized by de-ossification, bending, and pathological fracture, followed by the inability to form a normal callus at the fracture site. Fifty-five percent of cases of pseudoarthrosis are associated with neurofibromatosis-1 (NF-1), and 6% of patients with NF-1 develop pseudoarthrosis of the tibia. A 9-year-old male came to the orthopaedic

outpatient department with a deformity over his right leg since birth. There were multiple café au lait spots on the front and back of the trunk. The right leg had a bony deformity in the lower third with anterior convexity, with typical features of pseudarthrosis tibia and fibula, along with gross abnormal mobility and 2 cm shortening. The left leg was normal. There is no evidence of any new bone formation at the non-union sites. The patient was managed with refreshing the bone ends to

produce bleeding bone ends with good contact and open removal of aberrant fibrous tissue from the region of the tibia's pseudarthrosis. Bone fragments were reduced and fixed with a locking plate. Corticotomy was done at the proximal end of the tibia to improve the limb length discrepancy via the distraction osteogenesis method, and an Ilizarov ring fixator was applied. Postoperatively, distraction was done at 1 mm per day.

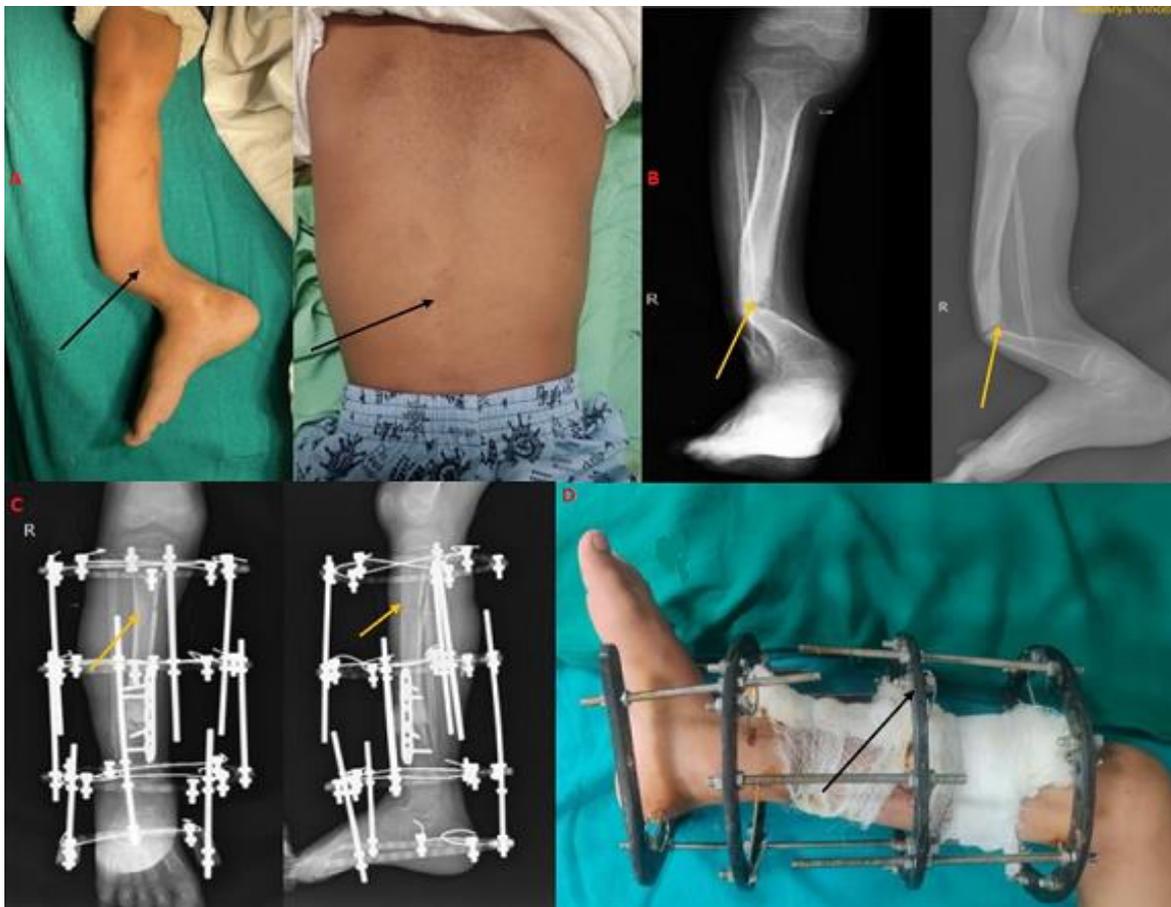


Figure 1: A) angular deformity over the right lower leg and café au lait spots; B) X-ray of the right leg reveals bony discontinuity in both the tibia and fibula at the lower third shaft with narrowing and sclerosis of bone ends at the pseudarthrosis site; C) X-ray of the right leg shows corticotomy and plate osteosynthesis; D) shows fixation with Ilizarov ring fixator