

Osteoid Osteoma with Tibia Varum - A case report

- *G. Mukesh Mohan, ** B. Pasupathy,
*** Mayilvahanan Natarajan

Tibia Vara, once thought as an epiphyseal dysplasia or osteochondrosis is currently considered as an acquired disease of the proximal tibial metaphysis. Eventhough the exact cause is still unclear, enchondral ossification is deemed to be at fault.

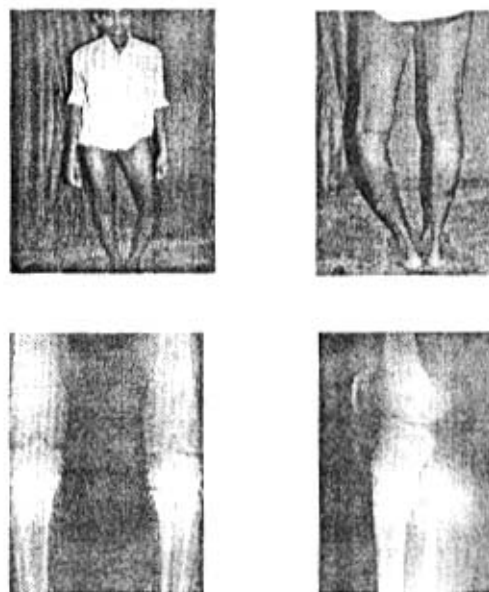
The usual causative factors are infection, trauma, avascular necrosis, latent rickets and developmental factors. The common denominator in all these causes are weight bearing is necessary for tibia vara to occur as it is not seen in non-ambulatory patients. We, are presenting a case of osteoid osteoma causing tibia varum.

Clinical Details

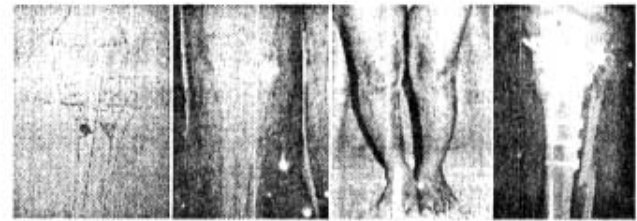
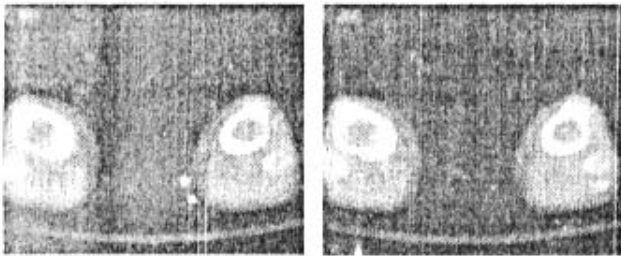
18 year old young man presented to us with the complaint of pain in the proximal part of his left leg of one year duration which was associated with progressive bending of left leg inward. There was no history of trauma, fever, loss of appetite, loss of weight. The pain was continuous, more in nights, relieved by analgesics. He also felt minimal swelling of his left leg in its upper part. Family history and past history were not contributory.

The limb was apparently shortened with a varus deformity of the left tibia. The varus deformity persisted even after flexion of the knee. Proximal

tibia was thickened in its medial side and tenderness was present at that site 7 cm below the joint line. Medial femoral condylar distance from the midline was 7 cm. There was no distal neurovascular deficit or regional lymphadenopathy. There was shortening of one cm confined to leg segment. A provisional diagnosis of unilateral tibia varum due to developmental abnormality was made and he was investigated further.



X ray of left leg showed tibia varum with a sclerotic lesion in the medial part of the proximal tibial metaphysis and a nidus within it. There was minimal periosteal reaction. A radiological diagnosis of osteoid osteoma was made which was subsequently confirmed by taking a CT scan.



Pre-Op plan Imm Postop. Post-op correction 4 months RU

Management

The causative lesion is to be excised marginally and simultaneously the varus deformity also needs to be corrected. Here the patient had shortening of the leg segment also. I.e., a lateral based corrective wedge osteotomy will cause further shortening. The excision of the lesion in the medial side will cause a defect in the medial side which has to be filled.

Hence a Modified Chevron-cut osteotomy – opening-closing wedge osteotomy was planned. Preoperative measurement of metaphyseal-diaphyseal angle was 12° while the normal angle was 11° . Tibio-femoral angle was measured to be 22° . Preoperative templating was done. The surgery was planned in such a way that two wedges, one medial and one lateral wedge is to be taken with their apices at midline of tibia. The medial wedge is taken in such a way that the nidus and the lesion is in the center of the wedge. After excision of the lesion as a wedge, a fibular osteotomy at the level of deformity was done. Varus deformity was corrected by closing the wedge laterally and the defect in the medial side was filled with the wedge of bone taken from the lateral side and cancellous bone grafting was added. The osteotomy site was fixed with T – buttress plate. Full correction of deformity was achieved with no shortening of the limb.

Post operative roentgenograms showed complete excision of the lesion with full correction of deformity. Post operative tibiofemoral angle was 3° of valgus. Histopathology showed osteoid osteoma with nidus.

Follow Up

Patient was immobilized in above knee cast for 3 months. Follow up x-rays showed good union of osteotomy site with complete correction of deformity. Patient had minimal weakness of extensor hallucis longus, which recovered on its own.

Discussion

With the controversial aetiologies of tibia vara, our case has added osteoid osteoma to the same. It has been very well established that osteoid osteoma in long bones can cause bowing. It is contemplated that in this case, the occurrence of tibia vara is due to such bowing caused by osteoid osteoma. When the tumour is associated with deformity, the deformity correction can be combined with excision of lesion by modified opening-closing wedge osteotomy of Greene.

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