

The pin mounting was: 1 medial and 1 lateral pins or 1 medial and 2 lateral pins. In 77 cases of irritation of ulnar nerve, clear muscular contractions were observed and place of pin insertion was carefully established. In two children irritation of nerve was not found and exploration was necessary. One child had radial nerve neuropraxy in addition to ulnar palsy. He had closed reduction with KW fixation and follow up till 4 months, the neuropraxy recovered without additional interventions. In one case brachial artery was disrupted. The child underwent open reduction, vascular repair and nerve exploration.

In all cases anatomic reduction was achieved. No cases of nerve or vascular injury were observed in cases with clear nerve irritation (77/81). No cases of secondary fracture displacement were noted. All fractures healed in desirable position. In 4 cases malalignment due to partial growth arrest was observed in follow up.

Changes in original setting of standard anesthesiology nerve stimulator may be performed easy in each hospital. Use of this device is very simple, even in cases of emergency. The monitoring of ulnar nerve by nerve stimulator is reliable and makes insertion of wires secure.

7) Fassier-Duval telescopic IM system in Children With Osteogenesis Imperfecta

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Introduction: We reported our experience of long bones fixation in 16 children with Osteogenesis Imperfecta by Nancy Nails over the course of five years. In the past two years we have performed fixation of long bones of lower limbs in 4 children with Osteogenesis Imperfecta using Fassier-Duval telescopic nail.

Patients & Methods: The average age of patients in the group treated by telescopic nails was 7.1 (5-8) years. All four children were diagnosed as Osteogenesis Imperfecta, two with Type I, one with Type III and one had an unrecognized type. All patients had an anamnesis of at least 8 previous pathologic fractures of limbs; in two of them pathologic vertebral fractures were also found. Two of the patients had previous surgery and underwent fixation by Nancy nails, the result of which was considered a failure. One patient had Coventry plating of hip fracture one year prior to telescopic nailing. The same patient had developed severe bilateral genu valgum which was treated by 8-plate patial epiphyseodesis one-half year before nailing. Six intramedullary telescopic femoral nailings and 4 intramedullary tibial nailings (10 procedures) were performed in four patients. In all patients multiple osteotomies of bone were performed in order to correct severe deformity. Soft bandage (Johns) was applied after surgery. Weight bearing was allowed after appearance of callus on control X-Ray (8-14 weeks after surgery, depending on age and weight of the child). All children received chronically treatment by infusions of Pamidronate.

Results: Fracture healing at osteotomy site was achieved in all cases. All patients were free of pain. No cases of infection were observed, nor were cases of postoperative contracture of knee joint. No growth arrest was observed after surgery. Normal alignment was restored in all cases with previous malalignment of femur and tibia. Two of patients in this series were not walkers and did not begin to walk after the surgery. One patient with OI Type III perforation of distal locking of "male" nail through femoral condyle into knee joint was re-operated and the distal part of the nail was secured into the distal femoral epiphysis by bone cement.

Conclusions: We consider fixation by Nancy Nails as inappropriate for treatment of Osteogenesis imperfecta. Fassier-Duval telescopic nail has proven useful for fixation of long bones in Osteogenesis Imperfecta and more secure than other devices used before for treatment of this pathology. The surgical technique is complicated but well developed.

