

Congenital spondylolisthesis is relatively rare. It typically presents in children, adolescents, or young adults. It more commonly presents with neurological symptoms or leg pain as opposed to back pain. May require urgent treatment if it presents as cauda equina syndrome. Some sort of decompression of the L5 lamina is required in association with a fusion, possible instrumentation procedure.

### **Case report**

An 11-year-old girl who was assessed for her back and leg symptoms. She has been complaining of some tightness in her lower extremities. She has been toe walking, particularly on the left side. She was assessed by a physiotherapist and was undergoing some stretching and massage-type exercises in an effort to address this. Her symptoms certainly do not resolve.

Her clinical examination shows a very dramatic picture with a standing position with flexion at the knee and the hip on the left side. She is unable to fully straighten her left leg without discomfort. She has an obvious step-off at the lumbosacral region with a flattened appearance to her buttocks.

More specific examination demonstrates significant tightness in her lower extremities. Her straight leg raising on the left side is about 5 or 10 degrees and on the right side about 40 degrees with crossover pain onto her left leg.

X-rays of her spine confirmed the clinical suspicion of a spondylolisthesis. She has a dysplastic spondylolisthesis with a significant forward displacement of at least grade 3.

Her MRI was reviewed showed an extremely tight stenosis.

We thought that this young lady needed a fairly urgent intervention for this. She required a posterior decompression followed by an in situ fusion from L4 to S1, the pedicular screws of S1 crossed to the inferior portion of L5 to secure stability.

**Result:** Post operatively she was kept on TLSO brace for 6 months and led an uneventful post operative course with no instability or loosening of the construct. She started regaining her functional abilities gradually and successfully.

## ***6) The use of nerve stimulation during percutaneous pinning of supracondylar fractures in children***

**H. Shtarker M.D., R. Dakwar M.D., O. Popov M.D., G. Volpin M.D.**

**Presenter:** **Dr. Riad Dakwar, Pediatric orthopedics, Department of Orthopaedic Surgery Western Galilee Hospital, Nahariya, Unit of Pediatric Orthopaedics Western Galilee Hospital, Nahariya.**

Injury to the ulnar nerve from the medial pin is the major concern during percutaneous pinning for supracondylar fractures. The incidence is estimated to be 2% to 3%.

Fixation of supracondylar fractures by 2 lateral pins doesn't provide enough stability and sometime may not prevent secondary displacement of the fracture fragments especially rotation. Soft tissue edema or excessive mobility of ulnar nerve may be predisposing factors for iatrogenic ulnar nerve injury.

During last three years 81 children with supracondylar fractures were operated in our department. Before use of nerve stimulator, we avoided applying medial pins especially in cases with swelling around the elbow. In all cases we used nerve stimulator permanently connected to pin during all time of wire insertion. In order to produce permanent monitoring of ulnar nerve during fixation, changes in setting of stimulator were made.

There were 67 children with extension type of supracondylar fracture and 14 with flexion type. Average age of the patients was 5.3 years (range 3-9 years). Four of 81 fractures were open supracondylar fractures. Closed reduction and percutaneous KW fixation by 2 or 3 pins were performed.



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***

**Shtarker Haim, Dakwar Riad, Volpin Gershon.**

**Presenter : Dr. Riad Dakwar, Pediatric orthopedics, Department of Orthopaedic Surgery Western Galilee Hospital, Nahariya, Unit of Pediatric Orthopaedics Western Galilee Hospital, Nahariya.**

**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.

