

# The treatment of neurotrophic foot and ankle deformity of spinal bifida: 248 cases in single center

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## **Abstract**

### **Objective:**

To evaluate the functional outcome of foot and ankle deformity secondary to spinal bifida treated by various methods

### **Methods:**

A retrospective analysis of 248 patients with foot and ankle deformity secondary to spina bifida with an average age of 25.5 years and underwent surgical treatment in our hospital from March 2012 to April 2016. The deformity correction was achieved by various methods like soft tissue

procedure, bony procedure combined with external fixator application. All the patients were followed up at regular interval. Post operative rehabilitation and protective splints were provided after fixator removal. The final outcome was evaluated with American Orthopedic Foot and Ankle Society (AOFAS) score and Qin Sihe's criteria for deformity correction, matched T test was used to compare the data pre and post surgery.

### **Results :**

According to short term follow up, all these patients were achieved complete correction and able to achieve full weight bearing. Out of 248 patients, 13 patients were lost follow up. 235 patients were followed up for an average of 28.5 months. We noted various minor complications like superficial pin tract infection seen in 5, pin breakage in 4, pin tract burn injury in 1 and recurrence of deformity was noted in 20 patients especially in children, anterior dislocation of the tibiotalar joint in 3 patients with severe clubfoot deformity. At the final follow up, the mean AOFAS score increased to 88.7, with a significant improvement compared with the score before surgery ( $P < 0.05$ ). Based on Qinsihe's criteria for deformity correction, the outcome was graded as excellent in 180 patients, good in 55, and fair in none of the cases.

**Conclusion:** Through orthopaedic treatment, combination of soft tissue and bony procedures along with external fixator helps to achieve complete correction of deformity, healing of ulcer, restoration of functional activity for spinal bifida sequelae patients.

**Key words:** Neurotrophic foot; ulcer; Foot and ankle; Spinal bifida; Orthopedic treatment