

## **Guest Nation Poster #GN 1**

### **Distal Clavicle Osteosynthesis With Mini-Fragment Plate: An Alternative in Children**

**Edgar M. Mora, MD, Fabio Berrio, Paula Valencia**

**Purpose:** Clavicle fractures are a common reason for consultation in pediatric trauma. The most frequent fracture occurs in the middle third, for which more evidence supports surgical management. However, the management of distal third fractures does not have a standard approach in children, and studies range from orthopaedic management to percutaneous fixation with pins or TEN (titanium elastic nail), tailored to the circumstances of the injury and the patient. In our review, we did not find management using specific segmental plates for children. Our objective was to describe in a case report an innovative therapeutic option for an unstable distal third clavicle fracture in a child, compared to those currently reported.

**Methods:** A case of a 12-year-old boy with an AO 15.3A[2,b] distal third clavicle fracture (displaced distal third clavicle fracture with partial rupture of the coracoclavicular ligament complex) is reported. Open reduction and osteosynthesis were performed using a 1.5-mm mini-fragment plate with a 4 × 2-hole grid. The patient was followed up for 6 months, including removing the osteosynthesis material.

**Results:** By applying this innovative open reduction technique with osteosynthesis for unstable distal third clavicle fractures in children, an anatomical reduction was achieved during the surgical procedure, and postoperative follow-up showed satisfactory anatomical, functional, and aesthetic outcomes.

**Conclusion:** There is no gold standard for managing unstable distal clavicle fractures in children. Techniques that report a near 98% consolidation rate have been described, with complications such as nonunion, infection, and loss of function. The fracture's complexity and the inherent deforming forces present a challenge for the surgeon, requiring the management to be adapted according to the individual characteristics of each case. A novel therapeutic option with satisfactory postoperative results is reported in this instance.