

## **Comprehensive Evaluation and Treatment Strategy of Tibia Plateau Fracture with Knee Dislocation**

*Zhe Song, MD; Yangjun Zhu, MD; Kun Zhang, MD; Weilou Feng, MD*

*Honghui Hospital, Xian Jiaotong University, Xian, China, People's Republic of*

**Purpose:** Tibia plateau fracture with knee dislocation is a potentially devastating injury that occurs more frequently than is reported and recognized. It is also a complex, high-energy injury that has frequent-associated complications. To achieve the best functional outcome possible with a minimum of complications, it is important to develop a treatment algorithm or protocol. Our article involves a high index of the discussion for the comprehensive evaluation, surgical treatment, and clinical efficacy of tibia plateau fracture with knee dislocation.

**Methods:** 41 cases of tibia plateau fractures with knee dislocation were treated in our department between June 2012 and June 2016. There were 26 males and 15 females with an average age of 43.6 years (range, 19-65). According to Schatzker classification, there were 9 type-IV cases; 17 type V cases; and 15 type VI cases. According to the Hohl-Moore classification, there were 11 type-I, 9 type II, and 21 type V cases. Comprehensive preoperative imaging examinations (radiographs and CT scan), and careful and accurate assessment for the state of blood vessels, nerves, fracture, and ligament were taken for all patients. Lateral and medial combined approach is adopted for the rigid internal fixation of fracture and ligament repair after the anatomical reduction of fractures and dislocations. All the patients were followed with the time of fracture healing, Rasmussen radiographic scores, and Hospital for Special Surgery (HSS) knee functional scores.

**Results:** 41 cases were followed for an average of 14.8 months (12-24 months). All fractures healed in a mean time of 11.6 weeks (10-14 weeks). Rasmussen radiographic scores at 12 months after surgery were excellent in 29 cases, good in 7 cases, fair in 3 cases, and poor in 2 cases. HSS knee functional scores at last follow-up were excellent in 27 cases, good in 8 cases, fair in 3 cases, and poor in 3 cases; the excellent/good rate was 85.4%.

**Conclusion:** Tibia plateau fractures with knee dislocation should be attached with importance to the comprehensive evaluation of the fractures, ligaments around the knee joint, blood vessels, nerves and local soft tissues, preventing the osteofascial compartment syndrome, the misdiagnosis and misdiagnosis of the injuries of blood vessels and nerves, performing the anatomical reduction and rigid internal fixation of fractures after definitive diagnosis and recovery of soft tissues, and giving the consideration to the recovery and reconstruction of the dislocation of knee joint at the same time, to ensure the early functional exercise of knee joint and obtain the satisfied clinical efficacy.