Risk Factors for Infection After Operative Fixation of Tibial Plateau Fractures

*Jimmy Hlavacek, MD[1]; **Amit Momaya, MD[2]**; Brian Etier, MD[2]; David Johannesmeyer, MD[2];
Lasun Oladeji, MS[2]; Emily Keener, DO[2]; Jason Lowe, MD[2];*
[1]Allegheny Health Network, Pittsburgh, Pennsylvania, USA;
[2]University of Alabama at Birmingham, Birmingham, Alabama, USA

Background/Purpose: Tibial plateau fractures are challenging to treat, especially due to the incidence of postoperative infections. The purpose of this study was to identify injury, patient, and surgical risk factors for deep infection in patients with tibial plateau fractures undergoing operative fixation. Our hypotheses were that certain patient factors (tobacco use and diabetes) and injury characteristics (concomitant compartment syndrome, Schatzker types IV-VI fractures, and open fractures) would be associated with infection.

Methods: A retrospective review was undertaken to identify all patients with tibial plateau fractures over a 10-year period (2003-2012) who underwent open reduction and internal fixation. A total of 531 patients were identified who met the inclusion criteria. Several patient and clinical characteristics were recorded, and those variables with a significant association ($P <0.05$) with postoperative infection were further analyzed using a multivariate analysis.

Results: 58 (10.9%) of the 531 patients developed a deep infection. The average length of follow-up for patients was 19.5 months. Methicillin-resistant Staphylococcus aureus (MRSA) was the most common species, and it was isolated in 26 patients (44.8%). Open fractures, the presence of compartment syndrome, and a Schatzker type of IV-VI were found to be independent risk factors for deep infection.

Conclusion: The rate of deep infection remains high after operative fixation of tibial plateau fractures. Patients with risk factors for infection should be counseled on the possibility of reoperation, and surgeons should consider MRSA prophylaxis in those patients who are at higher risk.

POSTER ABSTRACTS