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Fixation of depressed posterolateral tibial plateau fractures using a direct lateral approach

Abstract:

Fixation of plateau posterolateral fracture (PPLfx) is challenging because the fracture site is mostly covered by vital neurovascular structures. We operated on 15 cases of PPLfx using a direct lateral approach. Between 2017 and 2019, 15 cases of PPLfx were fixed with a direct lateral approach and a tricortical autologous bone graft from the iliac crest. A depression of more than 2 mm was indicated for the surgical treatment. Clinical evaluation included Lysholm score, International Knee Documentation Committee Score (IKDC) score, and Tegner activity scale. The last follow-up was at 24 months after the operation. The mean postoperative Tegner activity scale did not change significantly compared to before the injury (6.5 (6–7) vs. 7 (6–8, $p = 0.5$)). The postoperative IKDC and Lysholm scores improved significantly compared to before the operation ($p < 0.001$). The full range of motion was seen in all patients except one who was manipulated after three months. Surgical treatment using a direct lateral approach is a safe procedure for PPLfx that results in good, short-term clinical and radiologic outcomes without fibular osteotomy or compromising the important neurovascular structures. This study offers a less invasive with better exposure and direct reduction of the fracture fragments in PPLfx. The advantages of the presented lateral approach include a direct vision for anatomic reduction, the ability to dispense with fibular osteotomy, and the preservation of soft tissue around the posterolateral corner of the tibia plateau.

Biography

Reza Noktesanj is an Assistant Professor at Ardabil University of Medical Sciences, Iran. He is an orthopedic surgeon and knee fellowship. Additionally, Dr. Noktesanj serves as the Education Deputy at Ardabil University of Medical Sciences.