

Excellent Outcome After Double Locked Plating in Su Type II or III Periprosthetic Distal Femoral Fractures

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Purpose: Periprosthetic distal femur fractures (PPDFs) are a challenging injury of the elderly population, frequently associated with poor bone quality and limited bone quantity. Although minimally invasive osteosynthesis has been used with retrograde nail, or lateral locked plating, nonunion or malunion is not uncommon in Su type II or III fractures. We prospectively performed medial and lateral locked plating in these fractures and evaluated outcomes and complications.

Methods: 24 patients with PPDFs, treated by 2 surgeons, were identified using an institutional trauma registry. 17 patients with at least 12 months of radiographic and clinical follow-up were included, excluding 7 patients with insufficient follow-up. There were 12 (71%) Su type II and 5 (29%) type III fractures. All patients underwent medial locked plating with open reduction and lateral locked plating with minimally invasive plate osteosynthesis (MIPO). We evaluated the radiographic and clinical outcomes for all patients.

Results: 16 of 17 patients achieved union at an average of 19 weeks postoperatively (94%). Postoperative limb alignment was satisfactory (within 5° compared to contralateral side) in all cases, with 89° of lateral distal femoral angle (LDFA) and 86.6° of posterior distal femoral angle (PDFA) on average. All patients recovered the knee range of motion and the daily life, as they did before the injury. There was 1 (6%) case of nonunion with wound dehiscence due to preexistent vascular problem.

Conclusion: Double locked plating may not disturb the healing of fracture or soft tissue, and helps to achieve a satisfactory radiographic and functional outcomes in Su type II or III periprosthetic distal femoral fractures.

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