

3rd International Conference and Exhibition on Orthopedics & Rheumatology

July 28-30, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

Improved gait in patients with Lateral osteoarthritis of the knee after mobile bearing unicompartmental Knee arthroplasty

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Introduction: Periprosthetic medial tibial plateau fractures (TPF) are rare but represent a serious complication in unicompartmental knee arthroplasty (UKA). Most common treatment of these fractures is osteosynthesis with cannulated screws or plates.

Aim: The aim of this study was to evaluate these two different treatment options of periprosthetic fractures. The hypothesis was that osteosynthetic treatment with plates show significantly higher maximum fracture loads than fixation with cannulated screws.

Materials and Methods: 12 matched paired fresh frozen tibias with periprosthetic tibial plateau fractures were used for this study. In group A osteosyntheses with angle-stable plates were performed, whereas in group B cannulated screws were utilized to fixate the periprosthetic fractures. DEXA bone density measurement and standard X-rays (ap and lateral) were accomplished before loading the tibias under standardised conditions with a maximum load of up to 10.0kN.

Results: In the plate group all tibias fractured with a median load of $F_{max}=2.64$ (0.45-5.68) kN, whereas in the group with cannulated screws fractures occurred at a mean load of $F_{max}=1.50$ (0.27-3.51) kN. The difference was statistically significant with $p<0.05$.

Discussion: Angle-stable plates showed significantly higher fracture loads than fixation with cannulated screws. Therefore osteosynthesis with angle-stable plates in periprosthetic tibial plateau fractures should be recommended.

Biography

Seeger Jörn Bengt has completed his medical studies at the age of 27 years from Heidelberg University Hospital, Germany. He is an orthopaedic surgeon at the University Clinic Giessen and Marburg, Germany. He has published more than 28 papers in reputed.

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