A new navigation-based technique for lateral distalizing condylar osteotomy in patients undergoing total knee arthroplasty with fixed valgus deformity.

Abstract:
In a prospective, consecutive study, a navigation-based technique for calculating the sliding distance of the lateral epicondyle prior to osteotomy in TKA surgery of fixed valgus deformity has been developed, and early results have been evaluated. Twenty-seven knees with a fixed valgus deformity undergoing TKA received this new treatment. Clinical scores and radiograph evaluation were performed preoperatively and 1-year postoperatively. Static and dynamic kinematic data were obtained from navigation at the beginning and at the end of surgery. The calculated amount of sliding distance varied between 5 and 16 mm. No complications regarding this technique occurred. All clinical scores showed a significant improvement, and radiological evaluation showed a correction of all parameters in 100% of patients. With this navigation-based technique, it is possible to calculate the amount of sliding distance prior to osteotomy and obtain excellent early results. All axes have been corrected completely, and flexion and extension gaps were balanced. No specific complications of this technique have occurred so far. II.