

Summary

NEW SURGICAL TECHNIQUES TO PREVENT SERIOUS PERMANENT DISABILITY OF PROXIMAL HUMERAL FRACTURES

AIM: Fractures of the proximal humerus are the third most common fracture in adults. In the treatment of displaced three-and four-part fractures in the last decade we have witnessed the advent of new angular stable implants, which have better biomechanical stability in osteoporotic bone in these patients very frequent. The purpose of this study was to determine whether these new implants are a better prevention of severe permanent disability, compared with the earlier technique of percutaneous pinning with K wires.

METHOD: The detailed analysis for publishing rich area of research literature on treatment history, epidemiology and prevention of proximal humerus fractures was accomplished. Medium-term results were evaluated in a prospective randomized study of 55 patients treated with angular stable implants with an average age of 62.1 years (Targon PH nail 32 patients, Philos plate 23 patients). For comparison was used a group of 9 patients treated with percutaneous K wire fixation, combined monitored prospectively and retrospectively. With a minimal follow up of 12 months in all patients was determined the final individual relative Constant score and DASH score. For patients in the sample were obtained values of seven variables. There were analyzed all 21 possible relationships between these variables at a significance level of 5% using parametric and nonparametric tests (t-test, ANOVA, Mann-Whitney, Kruskal-Wallis test of significance of the correlation coefficient, χ^2 -test for contingency tables).

RESULTS: In examining the impact of used surgical techniques in functional outcome, irrespective of the type of fracture it has been shown that in the treatment of multifragmental fractures by pinning with K wire we have achieved a significantly worse functional outcomes compared to treatment with angular stable techniques. Further evidence was also reasonably expected fact that the functional outcome in four-parts fractures were significantly worse than in three-parts fractures.

CONCLUSION: Analysis of functional outcomes after the introduction of fixed-angle techniques at our trauma center showed a significantly worse treatment effect of percutaneously introduced K wire at the multifragmental proximal humerus fractures. Therefore, this technique was almost discard of our repertoire. Surgical treatment of new techniques such as secondary prevention, effectively minimize the permanent disability of injury. Surgeons can also play a significantly positive role in primary prevention. If we treat patients with osteoporotic fractures, they should also be sent to the osteological examination, unfortunately, this usually happens. Thus verified osteoporosis can be treated consistently and rationally in the primary prevention of further osteoporotic fractures. In our region on the basis of such evidence of the results we seek to establish a system to send these patients for osteological examination.