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Constant score in the evaluation of postoperative results in proximal humeral fractures in cancer patients with osteoporosis

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Introduction: In the past decades, the treatment of proximal humeral fractures has evolved with improved understanding of both fracture biology and biomechanics. The prevalence of proximal humeral fractures in chemotherapy treated cancer patients is increasing due to secondary osteoporosis.
Objective: Our aim is to compare the results obtained using two osteosynthesis methods developed for the surgical treatment of these fractures: intramedullary locking nail and locking plate - Philos plate, using the Constant Score.
Material and Method: Authors present a retrospective study of 46 cancer patients with osteoporosis who sustained different types of proximal humeral fractures treated surgically in the Orthopedic Department between January and July 2014. There were 27 females with an average age of 71 (51 - 87 years old) and 19 men with an average age of 74 (61 - 86 years old).
Fifteen proximal humeral fractures were treated using intramedullary locking nail and thirty-one were treated with locking plate, with a minimum follow-up of three months. Radiographs were analyzed for fracture classification, evaluation of fracture reduction, implant positioning and complications. Postoperative functional status of the patients was recorded using the Constant Score.
Results: Ten percent of the patients in the Plate group and seven percent in the Nail group suffered significant secondary fracture dislocation during the three months follow-up, leading to a varus malunion, lag screw cutout, or excessive lag screw sliding with medialization of the distal fracture fragment.
On the six weeks follow-up we obtained an 86 (66-97) medium Constant Score for the Nail group and a 77 (63-98) for the Plate group. On the three months follow-up we noticed that the medium Constant Score for the Nail group increased up to 91 (75-99), while for the Plate group was 89 (69-98).
Conclusion: The use of close reduction, internal fixation with the locking nail has proven to be superior in the treatment of these fractures because intramedullary nails have a biomechanical and biological advantage over standard compression plate, especially in unstable fractures with reverse obliquity and diaphyseal extension that cannot be treated easily with standard compression screws. However at the three months evaluation the Constant Score leveled for the two groups.
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