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Introduction: The complex anatomy of distal humerus, with its unique orientation of the articular surfaces with respect to anatomic reduction, reconstitution of joint congruity, restoration of the functional bone axis, fixation stability and remobilization, it is generally accepted that internal fixation provides the most favorable outcome for distal humeral fractures.

Material and methods: This retrospective study includes 51 patients surgically treated in our clinic in the period up to 2000 by 2016. The average age was 43.7 years (women 70%, men 30%). We studied the functional outcomes following surgery, using the MEPS and the DASH scoring system. The mean follow-up checks of injury was 32 months.

Results: The average value of the Dash score was 33.2 points, while the average value amounted MEPS score (85.5), which is a good functional outcome. Complications following surgery have occurred in 19% of cases. Our results are similar when compared with the results of other authors in world literature. Athwal G. et al have received an average score of 87 MEPS value, Theivendran K. et al have obtained average values: MEPS score (72), DASH score (46.1), which is slightly worse than our because they had a greater number of patients with complex intra-articular fractures type "C" using the AO/OTA classification.

Conclusion: Fractures of distal humerus are extremely difficult to treat surgically. For a good functional outcome is the most important early surgical treatment, ideal reconstruction and stable fixation of fragments.

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INFLUENCE OF COLUMNS BUTTRESS PLATING ON ALIGNMENT FOR PILON FRACTURES

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Introduction: Pilon fracture management remains challenging, with a high complication rate (20–50%). Among the reported complications, secondary displacement can be avoided by the systematic use of stable osteosynthesis-locking plates as buttress plates, following «the pilon map».

This work evaluates secondary displacement of the axis of the tibial plafond in coronal and sagittal plane on X-Rays, postoperative, at 6 and 12 months after surgery.

Material and methods: This study considers 16 patients with complete articular distal tibia fractures. Anatomical reduction of articular surface and buttress of columns in metaphyseal area were aimed.

Quality of reduction and stability over time were evaluated by measuring tibial plafond angle (coronal and sagittal plane) between joint line and longitudinal diaphyseal axis on postop x-ray, 6 and 12 months.

Results: No significant secondary displacement of fracture was encountered. Measurements were performed on digital AP and Lateral radiographs. Results comparing angles on first postoperative W-Ray and 1 year postoperative X-Ray are summarized. Frontal Variation: Valgus-2,7, Varus-3,5°, Range-6,2°, Mean variation-1,23° Sagittal variation: Posterior-10,4°, Anterior-2,8°, Range-13,2°, Mean variation-2,9°

Conclusion: The analysis of the frontal plane offers a relative constancy. A mean variability of 1,23, given the measurement bias, enforces hypothesis of a high stability using locking plates in a buttress technique. Significant discrepancy between results in the frontal and sagittal plane, at 6 and 12 months postoperatively is the result measurement difficulties. It's difficult to guarantee constant lateral views and hardware often covers the articular surface hiding the landmarks. Locking plates buttressing columns offers highly stable osteosynthesis. Measurement bias must be taken into consideration.

References:

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HIGH-ENERGY TIBIAL PLATEAU FRACTURES TREATED BY TRANSOSSEOUS OSTEOSYNTHESIS WITH FROZEN CANCELLOUS ALLOGRAFTS

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Introduction: Impacted, depressed fractures of tibial plateau that can occur due to high-energy and low energy trauma, surely present challenge for compensation of insufficient metaphyseal part of the bone.

Material and methods: The study included 32 patients with depressive tibial plateau fractures surgically treated in our clinic in the period from 2008 until 2016 year. The average age of patients was 48 years (23–62). Male respondents was 23 (71.8%) and 9 (28.2%) female. The right tibia is operated in 20 (62.5%) and the left in 12 (37.5%) cases. According Schatzker classification type IV fractures had 9 (28.1%), type in 10 (31.2%) and type VI 14 (43.7%) of respondents. In all patients to fill bone metaphyseal tibial defect was used cancellous allograft taken from a bone bank. Tibio-femoral frame is set in 25 cases (78.1%). The time monitoring and analysis is 15 months (10–35 months). Assessment of bone and functional results were done according ASAMI - scoring system.

Results: We noted fracture healing in all cases. In any case there was no resorption of allograft. Assessment bony fusion to ASAMI - classification are: excellent 20 (62.5%), a good 9 (28.1%), satisfactory 4 (12.1%). We did not have bad results. Functional ASAMI scoring system is: excellent 18 (56.2%), a good 8 (25.0%), satisfactory 5 (15.6%) and 1 (3.1%) bad result.