Abstract

Objective: To analyze statistically results obtained between biomechanical assays on fixation of femoral neck fracture type Pauwels III, on synthetic bone, using 7.5 mm non parallel cannulated screws and control group. Methods: ten synthetic bones from a national brand were used. Test group: fixation of 70° tilt femoral neck osteotomy was performed using three 7.5 mm non parallel cannulated screws. We analyzed the resistance of this fixation with 5 mm of displacement, and rotational deviation (phase 1) and with 10 mm offset (phase 2). Control group: the models were tested in their integrity until the femoral neck fracture occurred. Results: the values of the test group in phase de Souza1, Hélio Ismael da Costa1, 1, in sample 1-5 had a mean of 517N and SD = 96N. Rotational deviations showed a mean of 3.79° e SD = 2.03°. In phase 2, mean was 649N and SD = 94N. The values of the maximum load in the control group were: 1544N, 1110N, 1359N, 1194N, 1437N; respectively. Statistical analysis between the groups showed a statistically significant lower value in the test group. Conclusion: the analysis of mechanical resistance between the groups has determined statistically significant value for the test group. Level of Evidence III, Case-control study.

Keywords