LEARNING CURVE OF A NAVIGATION SYSTEM FOR TOTAL KNEE REPLACEMENT. A MULTICENTRIC STUDY

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INTRODUCTION: We performed a prospective, multicentre study to compare the accuracy of implantation of a TKR measured on postoperative X-rays in experienced and less experienced centres. MATERIAL AND METHODS: All centres used the same navigation system: 4 had already a significant experience with it (group A - 182 cases), 9 centres were considered as beginners with less than 10 cases performed prior to the study (group B - 221 cases). Accuracy of implantation was measured on postoperative long leg X-rays. The mean accuracy note was compared in the two groups by a Student t-test at a 0.05 level of significance. Power of the study was 0.80. RESULTS: Mean accuracy note was 3.9±0.8 in both groups. The expected femoro-tibial angle was achieved by 90% of the cases in group A and 88% in group B ($p>0.05$). There was no significant difference between both groups for all X-ray criteria. The mean operative time was significantly longer in group B than in group A (110 minutes vs. 90 minutes, $p=0.01$). However this difference occurred mainly during the first twenty cases in the beginner centres where we observed a clear tendency to achieve the same operative time as the experienced centres at the end of the study. DISCUSSION: The used navigation system allowed accurate implantation of a TKR in both experienced and less experienced centres. The learning curve of the used navigation system can be regarded as very short in high volume TKR centres (about 20 cases).