DOI: https://doi.org/10.30795/scijfootankle.2019.v13.1084

Scientific Journal of the Foot & Ankle

Abstract Number: 18183

Total ankle arthroplasty: preliminary Brazilian experience with the INBONE II prosthesis

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ABSTRACT

Introduction: Total ankle arthroplasty (TAA) is an alternative for the treatment of end-stage ankle arthrosis that is still in the implementation phase in Brazil. The objective of this study is to present the clinical and radiographic outcomes of the INBONE II prosthesis assessed by the Ankle and Foot Groups of the Department of Orthopedics and Traumatology of the Paulista School of Medicine at Federal University of São Paulo and Federal University of Minas Gerais.

Methods: From November 2016 to December 2018, 13 TAAs were performed in 13 patients (4 females: 31%; 9 males: 69%) with ages ranging from 41 to 84 years (mean: 58 years) using INBONE II implants (Wright Medical Technology, USA). Parametric data on arthrosis etiology, clinical status (visual analog scale (VAS) and American Orthopedic Foot and Ankle Society (AOFAS) scores), implant positioning and bone cut adequacy (lateral tibial slope (LTS), alpha, beta and theta angles and distances "a" and "b") were collected, in addition to short-term qualitative bone properties (periprosthetic bone cysts and tibial and talar component sinking and wear). We also collected immediate and early postoperative data on associated surgeries, complications and reinterventions. All data were subjected to statistical analysis at the 5% significance level.

Results: The VAS (pre 8; post 2) and AOFAS (pre 37; post 80) scores significantly improved at the end of a mean follow-up period of 10 months (min 1 month: max 2 years, 2 months). The immediate and early postoperative tibial and talar component alignment was within 2 degrees of deviation from the ideal in the sagittal plane in 84% patients and in the coronal plane in 92% patients, with an LTS below 5mm in 100% of patients and good correction of radiographic parameters, even in cases of arthroplasty revision.

Conclusion: Total ankle replacement is a good alternative for the treatment of advanced arthrosis of the ankle, and the INBONE II prosthesis is seems to be a good option for cases of arthroplasty failure due to loosening or malalignment. Longer follow-up is needed to evaluate intermediate and long-term outcomes.

Keywords: Arthroplasty, Replacement, Ankle; Ankle arthrosis; Prosthesis.