

Transcutaneous Pressure Oximetry (TcPO₂) Rise as a Prognostic Value of Healing in Diabetic Foot Ulcer after Revascularization

Sanchez Rios JP, Alfayate Garcia JM, de Benito Fernandez L, Criado Galan F, Cancer Garcia S, Gutierrez Baz M. Diabetic foot Unit. Vascular Surgery Unit. Fundation Alcorcon University Hospital. Madrid. Spain

Introduction: Several studies support the transcutaneous oximetry as a reliable predictor of healing diabetic foot ulcer. **Aim:** To assess the rise of TcPO₂ after revascularization as a predictor of healing and describe the most accurate threshold value. **Methods:** Preliminary study by retrospective analysis of a prospectively maintained database on revascularized diabetic patients with diabetic foot ulcer, in whom the diagnostic test was performed. Preoperative ABI was performed. TcPO₂ results before and after revascularization were collected. Type ulcer, revascularization and healing rate were collected. Statistical analysis included Fisher's exact test and Student t study. SPSS 15.0 for Windows was used. **Results:** 18 diabetic patients were included. Mean age was 68 years and 72% of patients were male. 19 revascularization were performed: 13 were endovascular treatment, 4 were autologous by-pass and 2 were hybrid procedures. The preoperative ABI was considered not valid in 68% of the cases. Before the revascularization, the mean TcPO₂ value was 14,6 +/- 9,40 mmHg and 18,6 +/- 12,93 mmHg for healed and non healed patients respectively (p=0.4404). After revascularization, the values were 40,8 +/- 10,85 mmHg and 23,5 +/- 13,27 mmHg for healed and non healed patients respectively (p=0.0063). Healing rate was 53%. In 9 of 10 patients, healing was performed if postoperative levels of TcPO₂ were at or above 35 mmHg (p = 0.0011). **Conclusions:** TcPO₂ was showed as a useful tool for assessing the success of revascularization and prognosis of healing in diabetic foot, especially in cases with ABI non-assessable. According to our data, the threshold value forecast for the healing of these diabetic ulcer would be 35 mmHg.