

P50

Are transcutaneous oxygen tension (TcPO₂) measurements reproducible? - and is TcPO₂ and Toe Blood Pressure (TBP) good to predict the risk of amputation for diabetic patients with foot ulcers? Nielsen, A.M. . Lauridsen, Jørgen T. University center of Wound Healing, Odense and Center of Health and Economy, University of Southern Denmark, Odense, Denmark.

Background and aim: Diabetic patients with foot ulcers are at high risk of amputations. The aim of this study is to evaluate repetitive measurements of transcutaneous oxygen tension (TcPO₂) - and together with TBP and TcPO₂ in diabetic patients with foot ulcers to see if they are good predictors for amputation. **Method:** Transcutaneous measurements of 24 patients with diabetes and foot ulcers were carried out. 3 areas were targeted: below the knee (Nr.1), on the dorsum of the foot between the metatarsal head of fourth and fifth toe (Nr.2), and between the metatarsal head of first and second toe (Nr.3). Two measurements per area were performed, both after calibration. Simultaneously measurements of TBP took place. All patients had no or very poor palpable pedal pulse. **Results:** There were 24 patients with foot ulcers Wagner grade 1-3 and diabetes (80% men and 20% women), median age 65.7 years. The mean values between the 2 TcPO₂ measurements at locations Nr.1, Nr.2 and Nr.3 are: 1.82/2.04/2.85 and the t-values are: 1.29/1.43/1.60. The test shows that the differences are not significant, meaning that the TcPO₂ measurements are reproducible. Within a follow-up period of 42 (+/- 8) months the mortality was 25% and 15 patients had undergone amputation (:7 of which were major amputations). Mean values for patients who underwent: amputation/no amputation: S-albumin: 35/39.4 g/l. t-test 1.89. p < 0.08. Mean duration of diabetes: 21.3/22.8 years. t-test 0.28. p < 0.79. HbA1c %: 8.1/7.1. t-test 1.50. p < 0.15. Tobacco: 39.8/28.6 years. t-test 1.17. p < 0.26. TcPO₂ Nr.1: 50.9/51.2 mmHg. t-test 0.06. p < 0.96. TcPO₂ Nr.2: 28.3/48.1 mmHg. t-test 1.95. p < 0.07. TcPO₂ Nr.3: 31.4/44.2mmHg. t-test 1.26. p < 0.23. TBP: 72.0/84.8 mmHg. t-test 0.59. p < 0.56. The above indicates that TcPO₂ on the foot (Nr.2) and s-albumin are good predictors for amputations. **Conclusion:** TcPO₂ measurements are reproducible and TcPO₂ measurements on the dorsum of the foot between the metatarsal head of fourth and fifth toe (Nr.2) are good predictors of the risk of amputation as well as s-albumin at diabetic patients with foot ulcers