Transcutaneous oxygen tension in hyperbaric condition as a predictor of ischaemia in non-healing diabetic foot ulcers


I. interni klinika Lekaiske fakulty UK a FN, Plzen.

The aim of the study was to evaluate the contribution of basal and modify transcutaneous oxygen tension measurement (TcpO2) to diagnosis of ischaemia and indication of angiography in non-healing diabetes foot ulcers: METHOD: 69 patients with non-healing diabetic ulcers localised on 76 legs underwent angiography (DSA) and basal and modify TcpO2 measurement after 100 % O2 exposition under normo- and hyperbaric conditions.

CHARACTERISTIC OF PATIENTS: mean age 66 years (42 81), diabetes duration 14.3 years (1 - 36), glycated hemoglobin 7.9 % (+/-1,35). RESULTS: Clinically important angiographic findings were obtained in 80 % (61/76) all ulcers. Basal TcpO2 < or = = 30 mm Hg was detected in 82 % diabetic ulcers with positive DSA (sensitivity - SN). The specificity (SP), positive and negative predictive value (PPV, NPV), relative risk (RR) and accuracy (A) of test were 60 %, 89 %, 47 %, 1.7 and 78 % respectively. TcpO2 with hyperbaric 100 % O2 was determined as the strongest predictor of ischaemia by statistical logistic regression. SN (91%), SP (77%), PPV (94 %), NPV (67 %, RR (2.8) and A (88 %) of test were increased (cut off 270 mmHg). CONCLUSION: TcpO2 measurement contributes to the diagnosis of ischaemia in non-healing diabetic ulcers. Modify TcpO2 increases the test value.

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