

Improved survival in Patients with Diabetes and Chronic Foot Ulcers after Hyperbaric Oxygen Therapy. Outcome of a randomized double-blind placebo controlled study. Magnus Löndahl¹, Per Katzman¹, Christer Hammarlund², Anders Nilsson³, Mona Landin-Olsson¹ Inst for Clinical Sciences in Lund, Lund University. ²Dept of Anesthesiology, Helsingborg Hospital. ³ Dept of Internal Medicine, Angelholm Hospital. All Sweden.

Background: Presence of diabetic chronic foot ulcers (DFU) is associated with an increased mortality risk. Hyperbaric Oxygen Therapy (HBOT) has been suggested as a treatment modality of DFU. HBOT increases oxygenation and stimulates angiogenesis. The aim of this study was to evaluate if HBOT improves survival in patients with diabetes and chronic foot ulcers. Method: Hyperbaric Oxygen therapy in patients with Diabetes and chronic Foot Ulcers (HODFU) study is a prospective randomized double-blind placebo-controlled study evaluating the effect of 40 HBOT sessions as compared to 40 treatments with hyperbaric air (placebo). Patients receiving more than 35 treatment sessions are included in predefined per-protocol analysis. Three-year mortality rates are evaluated in this study. Categorical variables were analyzed using Fischer´s exact test, continuous variables using Mann-Whitney U-test and Kaplan-Meier curves using Cox-Mantel test. A two-sided p-value <0.05 was taken as statistical significant. Results: 75 patients (38 HBOT and 37 placebo) with a similar median age (67 and 71 years (n.s.) (HBOT and placebo)) and a diabetes duration of 22 and 21 years (n.s.) were included in this analysis. Neither was any differences seen in co-morbidity between groups. Mortality rates were 10.5 % and 29.7 % (p=0.04) respectively after three years follow-up. Median ages of deceased patients were 79 and 75 years (n.s.). Conclusion: This study indicates that HBOT may improve survival in patients with diabetes and chronic foot ulcers.