

**CONCLUSION:** The efficiency of hyperbaric oxygen therapy in necrotizing soft tissue infections mainly is due to the achievement of sufficient tissue oxygen tensions on the site of infection. In a former study we showed a correlation of mortality and maximum achieved systemic PtcO<sub>2</sub>. Using the treatment protocol presented in this study, infection control can be achieved by very few, in some cases even less than 5 hyperbaric treatments

**Q 120 THE VASCULAR EFFECTS OF HYPERBARIC OXYGEN THERAPY IN TREATMENT OF EARLY DIABETIC FOOT** TF Lin, SB Chen, KC Niu, Inst. Undersea and Hyperbaric Med., Natl. Def. Med. Center, Univ. of Natl. Def., Taipei 114, Taiwan, R.O.C.

**INTRODUCTION:** Adjuvant hyperbaric oxygen (HBO<sub>2</sub>) is generally accepted as a treatment for problem wounds in diabetic feet. This study was to assess the beneficial effects of HBO<sub>2</sub> to vascular functions in the patients with early diabetic feet.

**METHODS:** Twenty-nine patients with early diabetic feet (Wagner grade 0, 1, 2) were investigated. Seventeen and twelve patients were randomly assigned to experimental and control groups, respectively. Data collection included demographic data, blood biochemistry, non-invasive vascular function assessments, and clinical evaluation. Vascular function evaluation included transcutaneous oxygen tension (TcPO<sub>2</sub>), Laser-Doppler perfusion scanning (LDPS), and ankle-brachial index (ABI). Patients were all treated the same, except not receiving the HBO<sub>2</sub> treatment in control group. Data were collected at pre-HBO<sub>2</sub>, after the 15th and 30th courses of HBO<sub>2</sub> treatment. Statistical analyses of independent and paired t-test were performed and set with significance at p < 0.05.

**RESULTS:** Data were presented with mean + S.D. Glycohemoglobin (HbA<sub>1C</sub>), TcPO<sub>2</sub>, and LDPS revealed significant improvement after 30th courses HBO<sub>2</sub> in experimental group. (Table 1)

	HbA <sub>1C</sub> (%)		TcPO <sub>2</sub> (mmHg)		LDPS (flux)	
	C	E	C	E	C	E
Pre – HBO <sub>2</sub>	10.2+4.4	10.5+4.4	39.4+25.2	35.9+20.9	29.5+9.9	27.7+5.3
15 <sup>th</sup> HBO <sub>2</sub>	9.7+3.5	6.7+2.7*	40.8+17.9	49.3+20.9	-----	-----
30 <sup>th</sup> HBO <sub>2</sub>	9.3+4.3	6.6+1.7*	35.8+21.2	57.7+20.7*	25.8+4.1	35.6+7.0*

C: Control, E: Experimental; \*p<0.01

No significant difference (p > 0.05) was found of ABI between control and experimental group.

**CONCLUSIONS:** Adjuvant HBO<sub>2</sub> therapy can directly or indirectly promote vascular function of early diabetic feet. These results imply HBO<sub>2</sub> may avoid further diabetic pathologic change and prevent later severe complication.

**Q 121 HYPERBARIC OXYGENATION AS AN ADJUNCTIVE TREATMENT IN THE REIMPLANTATION OF FINGERS** EC. Sánchez, E. Galindo, R Garzón, V Vázquez Hospital Angeles del Pedregal. Camino Sta. Teresa 1055, México, D.F. 10700, MEXICO

**INTRODUCTION:** Acute traumatic ischemias are an approved condition for HBO<sub>2</sub>, it inhibits the ischemia/reperfusion injury. Reimplantation of fingers could benefit of the early and aggressive use of HBO<sub>2</sub>.

**METHODS:** We report a retrospective chart review of 16 consecutive patients over a 31/2 year period. HBO<sub>2</sub> was administered as an adjunctive treatment for the reimplantation of a finger (21). A good outcome was considered with a 100% salvage, a bad outcome was a partial or total loss of the finger.

**RESULTS:** The most common causes in the pediatric patient were fixed bicycles (57.2 %) and doors (28.6%); in the adult population, the most common cause was work related injuries (66.6%). The average age was 21.9 years (range, 1 - 65). The average delay to treatment was 13 hours (range, 4 to 120). The total number of treatments given was 7.8 (range, 3 to 20). The overall success rate with our protocol was 90.4% (19 of 21 fingers). We broke down our cases in those treated within 6 hours of the amputation and those treated after this period. In the first group (< 6 h) there was a 100% salvage (14 out of 14 fingers). In the second group (> 6 h), there was a salvage of only 71.5% (5 of 7). The average delay for this group was of 42.2 hours (range, 18 to 120). Our protocol is 2.0 atm abs / 90 min / 7 treatments in first 72 hours, if needed, we continue with a BID schedule.

**CONCLUSIONS:** HBO<sub>2</sub> is a very effective adjunctive treatment for reimplantation of fingers, specially used within the first 6 hours of the event.

# Undersea & Hyperbaric Medicine

VOLUME 28, 2001 SUPPLEMENT



## PROGRAM AND ABSTRACTS

PRE-COURSES 13 JUNE 2001:

1. "MECHANISMS OF DECOMPRESSION ILLNESS III"
2. BAROMEDICAL NURSES ASSOCIATION
3. "PATIENT SAFETY" WORKSHOP

UNDERSEA AND HYPERBARIC MEDICAL SOCIETY ANNUAL  
SCIENTIFIC MEETING

14-16 June 2001

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