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### **Hyperbaric oxygen therapy for nonhealing vasculitic ulcers.**

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Cutaneous nonhealing ulceration is a threatening manifestation of vasculitis. Hyperbaric oxygen (HBO), frequently used as adjuvant therapy for patients with ischaemic ulcers, exerts additional beneficial effects on the vascular inflammatory response. To evaluate the effect of HBO on vasculitis-induced nonhealing skin ulcers. The study population comprised 35 patients aged  $\geq 18$  years with severe, nonhealing, vasculitis-induced ulcers that had not improved following immunosuppressive therapy. Baseline ulcer tissue oxygenation was evaluated at room air concentration (21% O<sub>2</sub>), at 1 atmosphere absolute (ATA) breathing 100% O<sub>2</sub>, and at 2 ATA breathing 100% O<sub>2</sub>. The baseline treatment protocol consisted of a 4-week course of 100% O<sub>2</sub> for 90 min at 2 ATA, five times/week. The mean baseline ulcer tissue oxygenation (3.1  $\pm$  2.4 kPa at room air concentration), was significantly increased to 13.9  $\pm$  11.9 kPa at 1 ATA breathing 100% O<sub>2</sub> ( $P < 0.001$ ), and subsequently increased further to 59.1  $\pm$  29.8 kPa at 2 ATA breathing 100% O<sub>2</sub> ( $P < 0.001$ ). At the end of the hyperbaric therapy, 28 patients (80%) demonstrated complete healing, 4 (11.4%) had partial healing and 3 (8.6%) had no improvement. None of the patients had any side-effects related to the HBO therapy. HBO therapy may serve as an effective safe treatment for patients with vasculitis having nonhealing skin ulcers. Further studies are needed to evaluate its role as primary therapy for this group of patients.

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