

Hyperbaric oxygen in diabetic gangrene treatment

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We treated a group of 18 hospitalized adult diabetic patients (all with retinopathy, 17 with symptomatic neuropathy, and 6 with macroangiopathy) presenting with gangrenous lesions of the foot by a combined regime consisting of strict metabolic control, daily debridement of necrotic tissues, and daily hyperbaric oxygen (HBO) treatments given in a multiplace oxygen chamber. Another group of 10 adult subjects with comparable foot lesions (all with retinopathy, 9 with symptomatic neuropathy, and 4 with macroangiopathy) was treated in exactly the same way except for HBO. In the test treatment group, 16 patients were healed, and the remaining 2 showed no improvement and later underwent amputation. The number of HBO treatments required for healing was significantly related to the size of gangrenous lesions. In the non-HBO-treated group, only 1 patient improved, 5 of 10 showed no change, and 4 of 10 worsened until leg amputation was unavoidable. Comparison of the two groups by chi 2-test revealed a highly significant difference ($P = .001$). In practical terms, HBO treatment drastically reduced leg amputations in patients so treated in the last 3 yr compared with earlier and current figures for patients not receiving HBO treatment.

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