

More News on the Benefits of Hyperbaric Oxygen on Stem Cell Generation

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It used to be said in medicine that if you understood diabetes you understood medicine. The reasons we said that was diabetes adversely effects everything in the human body. In addition to the damage elevated sugar has on proteins (glycosylation), it impairs tissue blood supply by damaging the tiny capillaries. We've known for a long time and certainly at my Hyperbaric Centers we have observed this first hand over and over again – that HBO rapidly causes healing. And it isn't just because oxygen was needed by the ailing tissues. One of the important effects of HBO is to mobilize stem cells from bone marrow.

When added to the study I referenced yesterday that demonstrated stems cells plus HBO were superior to either alone – we can see a path for healing chronic diseases – and just diabetes. It is likely this combination of HBO and Stem Cells can benefit many if not most chronic illnesses as well as acute injuries.

Here is some more research published this week.

Vasculogenic stem cell mobilization and wound recruitment in diabetic patients: Increased cell number and intracellular regulatory protein content associated with hyperbaric oxygen therapy.

Wound Repair Regen. 2011 Mar;19(2):149-161.

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Abstract

Diabetic patients undergoing hyperbaric oxygen therapies (HBO(2) T) for refractory lower extremity neuropathic ulcers exhibit more than a twofold elevation ($p=0.004$) in circulating stem cells after treatments and the post-HBO(2) T CD34(+) cell population contains two- to threefold higher levels of hypoxia inducible factors-1, -2, and -3, as well as thioredoxin-1 ($p<0.003$), than cells present in blood before HBO(2) T. Skin margins obtained from 2-day-old abdominal wounds exhibit higher expression of CD133, CD34, hypoxia inducible factor-1,

and Trx-1 vs. margins from refractory lower extremity wounds and expression of these proteins in all wounds is increased due to HBO(2) T ($p < 0.003$). HBO(2) T is known to mobilize bone marrow stem cells by stimulating nitric oxide synthase. We found that nitric oxide synthase activity is acutely increased in patients' platelets following HBO(2) T and remains elevated for at least 20 hours. **We conclude that HBO(2) T stimulates vasculogenic stem cell mobilization from bone marrow of diabetics and more cells are recruited to skin wounds.**

Excerpt from: <http://drbradstreet.org/2011/03/06/more-news-on-the-benefits-of-hyperbaric-oxygen-on-stem-cell-generation/>