

HYPERBARIC OXYGEN THERAPY (HBO₂) FOR CRUSH SYNDROME IN THE FOOT IN A PATIENT WITH NARROW-ANGLE GLAUCOMA

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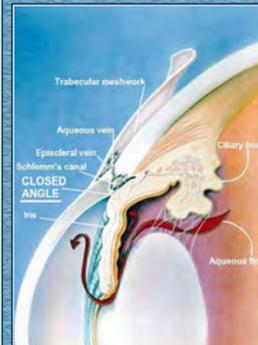
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Patient's left foot imaging at Hyperbaric Medicine Unit admission



Introduction

Glaucoma encompasses a variety of intraocular syndromes leading to blindness; although the precise mechanism of the pathophysiology may vary, several risk factors associated with this disease are well known such as: increased intraocular pressure, myopia, center-corneal thickness, age, race, familiarity and vascular factor. Narrow-angle glaucoma is a possible contraindication to HBO₂, for the risk of inducing acute closed-angle glaucoma.

Materials and Methods

Our patient was a 69 yo male who, in late July 2009, suffered crushed trauma of his left foot with a major compression on the metatarsal end.

Surgical debridement was limited to skin and subcutaneous tissues.

It was decided to attempt a conservative treatment, avoiding amputation but exposing the patient to several HBO₂ sessions. This exposure carried additional risks from his concomitant glaucoma characterized by particularly narrow-angle.

We obtained a further informed consent from the patient for such a protocol design: instillation of pilocarpine 4%, two drops in each eye, 3 times (every 5') starting 20 ÷ 25' prior to each hyperbaric oxygen session, and a daily wound dressing change with 32+32 dives @ 2.5 ATA (25'O₂ x3 and 2 x5' air-breaks interposed), these were followed by 16 HBO₂ additional Tx.

Results

Eight months later and after completed approximately 5 months of HBO₂ the patient continued to show good recovery, and the foot's intact and did not require deep debridement or amputation. There was no eye pain; no change in visual acuity during hyperbaric treatments and no change in the intraocular pressure which was monitored several times during this course of treatment.

Conclusions

We suggest that in selected patient, utilizing therapeutic protocols designed for individual patient, the use of pilocarpine may allow exposure to HBO₂ and even in patients with glaucoma.

We do propose that both the miosis and the parasymphomymetic properties of this alcaloid may maintain opened angle glaucoma viable during HBO₂.



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