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CLINICAL RESPONSE OF RETINITIS PIGMENTOSA TO HYPERBARIC OXYGEN THERAPY

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Introduction:

Retinitis pigmentosa (RP) is a highly variable degenerative ocular disease involving the progressive death of retinal photoreceptor cells. Affected patients develop severely reduced peripheral vision, loss of night vision, and often progressive central visual acuity deterioration. Currently available treatment options are limited and offer modest benefit. Hyperbaric oxygen (HBO) therapy has been reported in selected cases of RP to increase electrical activity in the retina. It is not known whether this correlates with long-term clinical improvement. We elected to treat a young RP patient with HBO and assess his clinical response.

MATERIALS AND METHODS:

A twenty-two year-old male previously diagnosed with RP was selected for this study. Based upon previously reported methods of treatment (Vingolo et al, 1999), the intervention included twenty consecutive HBO sessions using a US Navy Treatment Table 9 (TT9), followed by five consecutive treatments per month for one year. Clinical parameters including visual acuity, contrast sensitivity, color vision, photostress recovery time, intra-ocular pressure, static perimetry (visual field testing) and electroretinogram (ERG) were recorded at baseline and periodically during the treatment protocol.

RESULTS:

Following the first series of treatments, we observed a modest improvement in best-corrected visual acuity, reduced photostress recovery time and a doubling of ERG voltage. By 6 months, ERG voltage had more than tripled from baseline and other improvements were maintained. The protocol is ongoing.

CONCLUSIONS:

RP is a progressive disease with guarded prognosis and limited treatment options. Initial results from this study indicate that in some cases of RP, HBO may limit progression and modify some clinical sequelae. If HBO therapy results in any improvement or at least results in a reduction in the rate of deterioration, it may be possible to develop HBO parameters for minimizing clinical progression in selected patients with RP.

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