



A service of the National Library of Medicine  
and the National Institutes of Health

My NCBI

[\[Sign In\]](#) [\[Regis\]](#)

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book

Search PubMed

for

Go

Clear

Limits

Preview/Index

History

Clipboard

Details

Display AbstractPlus

Show 20

Sort by

Send to

All: 1

Review: 0



1: [Doc Ophthalmol.](#) 1998-1999;97(1):33-9.



Links

### Does hyperbaric oxygen (HBO) delivery rescue retinal photoreceptors in retinitis pigmentosa?

[Vingolo EM](#), [Pelaia P](#), [Forte R](#), [Rocco M](#), [Giusti C](#), [Rispoli E](#).

Department of Ocular Electrophysiology, Center for Inherited Degenerative Retinal Disorders, University of Rome La Sapienza, Italy.

As previously reported in the literature, hyperbaric oxygen delivery seems to modify the natural course of retinitis pigmentosa. In order to evaluate these first encouraging data, 48 affected subjects were separately studied in two subgroups (cases and controls). All patients underwent yearly an ophthalmological examination completed by a maximum amplitude electroretinogram, conducted according to our 'differential derivation' system, a new recording technique specifically designed to enhance the signal-to-noise ratio. Oxygen delivery was provided regularly for 90 min daily (2.2 Absolute Atmosphere) in three cycles according to a standard protocol. In the cases, electroretinographic mean values were as follows: at T0 (basal) 4.68 +/- 3.81 microV; after one year (T1) 8.46 +/- 5.71 microV; at two years (T2) 10.7 +/- 7.6 microV; at the end of the study (T3) 14.4 +/- 11.7 microV. In the controls, electroretinographic mean values were as follows: at T0 4.92 +/- 3.05 microV; at T1 5.04 +/- 3.07 microV; at T2 3.46 +/- 2.77 microV; at T3 2.97 +/- 3.61 microV. Amplitudes showed a remarkable ( $p < 0.001$ ) increase in the cases, while a slightly significant ( $p < 0.02$ ) decrease was evident at the end of the study in the controls. In our opinion, retinal oxygen availability may be critical in retinal degeneration and hyperbaric oxygen delivery, inducing hyperoxia, seems to be able to bring about the rescue of the retinal photoreceptors helping them in their metabolic requirements. Unfortunately, our study demonstrates an increase in electroretinographic responses only, which may not necessarily also mean an evident change in visual acuity.

PMID: 10710240 [PubMed - indexed for MEDLINE]

Display AbstractPlus

Show 20

Sort by

Send to

[Write to the Help Desk](#)

### Related Links

Low-noise electroretinogram recording techniques in retinitis pigmentosa. [Doc Ophthalmol. 1994]

Plasma levels of endothelin-1 in retinitis pigmentosa. [Ophthalmologica. 2002]

Low-frequency damped electroretinographic wavelets in young asymptomatic patients with dominant retinitis pigmentosa: a new electroretinographic finding. [Ophthalmology. 1999]

[Visual acuity and full-field electroretinography in patients with Usher's syndrome]. [Bras Oftalmol. 2005]

Comparison of intraocular light scatter in carriers of choroideremia and X-linked retinitis pigmentosa. [Ophthalmology. 2002]

[See all Related Articles...](#)