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Treating dry macular degeneration with non-invasive electrical stimulation (NI-ES)

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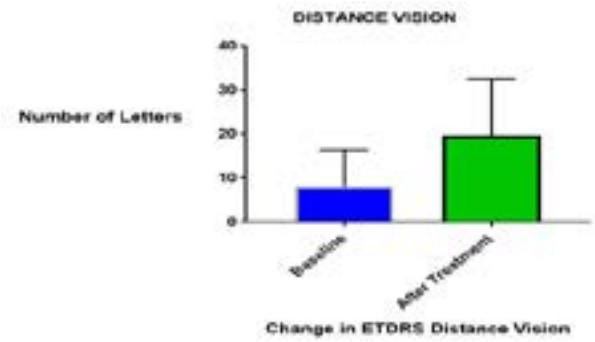
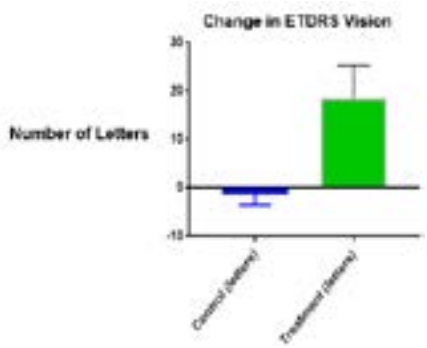
Statement of the Problem: Macular degeneration (MD) is the leading cause of irreversible vision loss in people over 50. Without effective treatment, those with some signs of MD will increase upto 70% by 2030. Currently, there is no treatment for dry macular degeneration.

Purpose: The purpose of this case series is to demonstrate that transpalpebral NI-ES, is beneficial in treating dry MD.

Methodology & Results: Twelve patients were randomly divided into two groups. In the treatment group, 6 patients underwent one treatment session of ten minutes to both the eyes daily for three consecutive days with an active eye stim device. The second group of 6 patients acted as the control group. This group underwent one sham treatment session for 10 minutes with a non-functional eye stim device treating both eyes daily for three consecutive days during week 1. Followed by one active treatment session for three consecutive days with an active eye stim device during week 2. At the end of 3 days, the eyes treated with the eye stim in the treatment group improved on average 3.9 lines (or 19 ETDRS letters). The control eyes lost on an average about 1 line (6 ETDRS letters).

Conclusion & Significance: This case report demonstrates that NI-ES is beneficial for those with dry MD. It is non-invasive and was well tolerated in each case with no one reporting any side effects. The positive effect on VA occurred quickly, after 1 ten minute session, and continued to improve after 3 days of treatment. The changes observed indicate the potential efficacy of microcurrent electrical stimulation to improve vision, slow progression, and possibly stabilize dry MD. Based on the very promising results, studying a larger group of patients is needed and gives hope of a new therapeutic option.





Recent Publications

1. Klein R et al. (2007) Fifteen-year cumulative incidence of age-related macular degeneration: the Beaver Dam eye study. Ophthalmology 114(2):253-262.
2. Wang J et al. (2007) Ten-year incidence and progression of age-related maculopathy: the Blue Mountains Eye Study. Ophthalmology 114(1):92-98.

3. Shinoda K et al. (2008) Transcutaneous electrical retinal stimulation therapy for age-related macular degeneration. Open Ophthalmol Journal 2:132-136.
4. Anastassiou G et al. (2013) Transpalpebral electrotherapy for dry age-related macular degeneration (AMD): an exploratory trial. Restorative Neurology Neuroscience 31(5):571-578.
5. Korb C A et al. (2014) Prevalence of age-related macular degeneration in a large European cohort: results from the population-based Gutenberg Health Study. Graefes Archive for Clinical and Experimental Ophthalmology. 252(9):1403-1411.

Biography

Wendy Strouse Watt graduated from Pennsylvania College of Optometry and pursued her Master's Degree work through Nova Southeastern University College of Optometry's Clinical Vision Research Graduate Program. She is currently involved in private practice at DuBois Vision Clinic, Pennsylvania (USA). Her research work deals with the treatment for dry macular degeneration. Her passion is to get the treatment to the people in need. Over the years, she has fine-tuned the protocol, the methodology and process of non-invasive electrical stimulation (NI-ES) of the retina.

Notes: