S12 - Cone Rescue in Retinitis Pigmentosa by the Treatment of Lycium Barbarum

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Introduction: *Lycium barbarum* L. (also known as "Goji berry"), a traditional Chinese herbal medicine, has been a common herb in the traditional Chinese pharmacopoeia for centuries. Its antioxidative effect has been widely shown to provide neuroprotection to the eye, and it would, therefore, be interesting to determine if *Lycium barbarum* help delay vision deterioration in patients with retinitis pigmentosa.

Project Objectives: Cone rescue is a potential method for delaying deterioration of visual function in Retinitis pigmentosa (RP). This study aimed to investigate the treatment effect of *Lycium barbarum* L. (LB) supplement on retinal functions and structure in RP patients after a 12-month intervention trial.

Methods: It was a randomized controlled trial with a double-masked design. RP subjects were recruited and received a detailed eye examination including ETDRS (90% and 10% contrast) Visual Acuity (VA), Humphrey Field Analysis (HFA) (Central 30-2 and 10-2 full threshold), Full-field flash Electroretinogram (ffERG) and macular structural evaluation by Optical Coherence Tomography (SD-OCT) before the intervention. The RP subjects who were fitted for the inclusion criteria were randomly allocated into either LB (treatment) or placebo (control) groups. Each subject would have a 12-month supply of packs of granules (LB or placebo) and have follow up eye examination in every 6 months. Counting the packs of granules had conducted to counter-check the compliance.

Results: A total of 42 RP subjects (23 in treatment group and 19 in control group) completed the 12- month intervention. The compliance rates for treatment and control groups were 89% and 85% respectively. There were no deteriorations of either 90% or 10% contrast VA in the LB group compared with the control group (p=0.001). A thinning of macular layer was observed in the placebo group, which was not observed in the LB group (p=0.008). However, no significant differences were found in the sensitivity of visual field or in any parameters of ffERG between the two groups. No significant adverse effects were reported in the treatment group.

Conclusions: The treatment of *Lycium barbarum* supplement provides a neuroprotective effect on the retina and may help delay or minimize the deterioration of visual function and retinal structure in RP patients.

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