PP02.10

Randomized-Minimisation Double-Masked Sham-Controlled Trial Of Efficacy And Safety Profile Of Quantum Molecular Resonance For Meibomian Gland Dysfunction

N. Kasetsuwan[1,*], U. Reinprayoon[1], L. Uthaithammarat[1], Y. Chongpison[2]

[1]Department of Ophthalmology , [2]Biostatistics Excellence Center, Chulalongkorn University, Faculty of Medicine, Bangkok , Thailand

Purpose: To evaluate efficacy and safety of the novel quantum molecular resonance (QMR) device for the treatment of meibomian gland dysfunction

Setting: Randomized double-masked sham-controlled trial

Methods: Eighty participants diagnosed with MGD were recruited. Either QMR or sham procedure was done on day 0, 7, 14 and 21. Meibum quality which was the primary outcome, and other secondary outcomes, were examined at baseline, 1-, and 2-month after last treatment (day 49 and day 77, respectively). Tear osmole, tear interleukins (IL)-1 receptor agonist (Ra) and IL-6 were evaluated at baseline and day 49. Adverse events during the study were recorded. The multilevel mixed-effect linear regression model was used. P-value less than 0.05 was considered statistically significant.

Results: Meibum quality (p=0.008), corneal and conjunctival fluoresceine staining score (p=0.036), telangiectatic vessel (p=0.008), superior lid (p=0.011) and inferior lid meibography grade (p=0.020) were significantly improved in QMR group comparing with placebo group at day 77, while superior lid meibography grade (p=0.027) and meibomian gland cupping grade (p=0.017) were significantly improved in QMR group at day 49. Moreover, IL-6 levels significantly decreased in the QMR group (p=0.037) at day 49, but not in the sham group. NITBUT, TMH, TFLLT, Schirmer's test, conjunctival hyperemia, lid margin thickening and notching grade, meibum expressibility, tear osmole, IL-1Ra level were not significantly different between the 2 groups.

Conclusions: QMR device was effective for the treatment of MGD with the improvement of meibum quality, superior and inferior lid meibography, meibomian gland cupping, corneal and conjunctival staining, and moreover, decreased telangiectatic vessel and IL-6 levels.

Disclosure of Interest: None declared