

ABSTRACT

THE EFFECT OF HYPERBARIC OXYGEN THERAPY ON VISUAL ACUITY, MACULA CONFIGURATION AND MACULAR THICKNESS IN AGE RELATED MACULAR DEGENERATION DRY TYPE PATIENT

Astrid Pricilia Syulianti, Moestidjab, Titut Harnanik

Objective : To evaluate the effectiveness of hyperbaric oxygen therapy (HBOT) on improving visual acuity, macula configuration, macular thickness in age related macular degeneration dry type patient.

Methods : This was experimental study with pre-test and post-test control group design. The subjects included were AMD dry type stage 1, 2, 3 based on AREDS classification who had been diagnosed between 2016 and 2017. They were two groups. Treatment group administered HBOT and antioxidant supplement, other group administered antioxidant supplement only. The patients were examined best corrected visual acuity, OCT before, first day after, 14 days after. Mann-Whitney test, independent sample T-Test, Paired T-test, Chi square, Wilcoxon Sign Rank test were used for statistical analysis.

Result : Twenty five eyes from fiveteen patients were enrolled the study. Statistical analysis of this study showed there was no statistically significant change in both groups. The thickness of the macular thickness in HBOT group was statistically significant at central foveal thickness pre-1 day after posttherapy ($p = 0,044$), temporal external macula 1 day-14 days posttherapy ($p = 0,041$), improvement of macular configuration in 3 mm (circle) area 1 day-14 days posttherapy ($p = 0,041$), 5 mm (circle) pre-1 day posttherapy ($p = 0,028$). In the control group, macular thickness increased in superior outer macula pre-14 days posttherapy ($p = 0,018$), nasal outer macula pre-14 days posttherapy ($p = 0,020$).

Conclusion : HBOT may accelerate the improvement of macular thickness and macular configuration.

Keywords : ARMD, HBOT, visual acuity, macula configuration, macular thickness