

**TITLE: VISION-RELATED QUALITY OF LIFE OF MYOPIC CHILDREN USING COMBINATION TREATMENT: ATROPINE AND DEFOCUS INCORPORATED MULTIPLE SEGMENTS SPECTACLE LENS**

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**ABSTRACT: (150-300 Words)**

**Aim:** To assess vision-related quality of life in children undergoing myopia control treatment using atropine drops compared to children treated with combined treatment of atropine and Defocus incorporated multiple segments (DIMS) spectacle lenses.

**Methods:** Longitudinal study that included myopic children aged 4 to 16 years undergoing myopia control treatment. Group A included children on 0.025% atropine eyedrops and single-vision lenses, and group B included children on combined treatment of 0.025% atropine and DIMS lenses. Demographic and clinical data, including cycloplegic spherical equivalent refraction (SER) and axial length (AL), were noted. VR-QoL was assessed using the Children's Visual Function questionnaire (CVFQ) and the Pediatric Eye Questionnaire (PedEyeQ) before initiating and after 6 months of treatment. Statistical analyses (Mann-Whitney U-test or t-test) were performed.

**Results:** 95 patients were included: 50 children in group A, mean age  $8.94 \pm 2.50$  years and 45 children in group B, mean age  $9.51 \pm 2.46$  years ( $p=0.266$ ). No significant differences were found in the overall VR-QoL between both groups with PedEyeQ. Functional Vision and Social item scores (PedEyeQ) significantly improved at the 6M follow-up in group A ( $p=0.03$  and  $p=0.016$ , respectively) and group B (all  $p=0.01$ ). Scores on the Eye Condition item (PedEyeQ) at baseline and at 6M follow-up were reversed; a decrease in group A, 89.73 [69.86-89.73] and 64.98 [50.02-74.99] ( $p<0.01$ ), and an increase in group B, 69.96 [69.96-89.72] and 74.97 [43.62-85] ( $p=0.039$ ). For the CVFQ, only Group B showed an improvement in General Vision ( $p=0.049$ ) and Competence ( $p=0.031$ ) scores.

**Conclusions:** Myopic children treated with atropine and those using combination treatment (atropine and DIMS) do not seem to have significant differences in overall VR-QoL following 6 months of treatment. General Vision (CVFQ), Competence (CVFQ) and Eye Condition (PedEyeQ) scores improve significantly for children on combination treatment.

**Keywords:** *Quality of life; vision-related quality of life; myopia; atropine; defocus incorporated multiple segments spectacle lens; DIMS*