

Title: Vision-related quality of life in myopic children using combination treatment with atropine and DIMS (Defocus Incorporated Multiple Segments) spectacle lenses: 12-month results.

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Purpose

A longitudinal study to evaluate and compare vision-related quality of life (VR-QoL) in myopic children undergoing myopia control treatment with atropine eye drops to children treated with combination treatment of atropine eye drops and Defocus Incorporated Multiple Segments (DIMS) spectacle lenses.

Methods

Myopic children aged 4 to 16 years undergoing myopia control treatment were included. Group 1 included children treated with 0.025% atropine eye drops and single-vision spectacle lenses and group 2 included children treated with combination treatment with 0.025% atropine eye drops and DIMS spectacle lenses. Demographic and clinical data were collected. VR-QoL was assessed using the Children's Visual Function Questionnaire (CVFQ) and the Pediatric Eye Questionnaire (PedEyeQ), administered before initiating treatment and after 12 months of treatment. Statistical analyses (t-test) were performed.

Results

90 patients were included (mean age 9.62 ± 2.58 y): 48 children in group 1 (39 between age 5-11y and 9 between 12-17y) and 42 children in group 2 (36 between age 5-11y and 6 between 12-17y). Items of general vision ($p=0.049$) and competence ($p=0.031$) showed better results in group 2 but no significant differences in VR-QoL were found between the two groups using CVFQ. Regarding the PedEyeQ test, the baseline score in the visual function item was 77.48 and 70 in groups 1 and 2 respectively, with a significant improvement in 12-month results (group 1: 90.01 and group 2: 85) in both groups ($p=0.03$ in group 1 and $p=0.01$ in group 2). In the social valuation item statistically significant differences were also obtained in both groups in 12-month examination with respect to baseline (Baseline Group 1: 84.98 and 12 months: 89.98 ($p=0.016$) and Baseline Group 2: 84.97 and 12 months: 89.98 ($p=0.01$)).

Conclusions

No significant differences were observed in the quality of life of patients treated with atropine eye drops compared to those who received combined treatment of atropine eye drops and DIMS spectacle lenses. In the group of patients using combination treatment, an increase in visual function was observed, suggestive of a possible additive effect on VR-QoL of DIMS spectacle lenses in myopic children using pharmacological treatment for myopia control.