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The impact of Rose -K RGP contact lens wear on the visual performance of keratoconic eyes

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Aim: The study was designed to be a comparative cross sectional study. It was aimed to evaluate the effect of rigid gas permeable contact lens wear (Rose-k menicon) on visual performance (vision, color vision and contrast sensitivity) in keratoconic patients with different degree of keratoconus. **Material and method:** The history of the patients was taken to be sure that the patient have no history systemic and ocular diseases, the corneal curvature was measured by auto refkratometer (Nidek) to determine the degree of KC, the vision was tested by Snellen's test type (E-test). Refraction was done subjectively using (stenopic slit), Rosek2 lenses (menicon) was use to correct refractive sate of the eye, the color vision was evaluated with (Ishiaraa) test and contrast sensitivity with (low contrast slip Thark), these measurements were taken with and without Rose k2 contact lens. **Results:** The data were analyzed using SPSS program and the following results were obtained: A total number of 50 patients (100 eyes) were found to fulfil the criteria of selection (31 males and 19 female) their ages were ranged from 10 - 35 years with a mean of (22.72 years \pm 5.79). Ninety four percent of the patients had moderate (52%) to sever (42%) keratoconus. Their base line vision ranged (1/60-6/9) with mean of 0.10 ± 0.10 , 99% of them less than 6/18, and with rose-k 2 contact lens was from (6/12 to 6/6) 97% their vision was within the normal limits from (6/9 to 6/6) with a mean of 0.88 ± 0.20 , Independent t-test showed significant differences base line and with rosek2 P value 0.000 . The base line color vision showed that 62% of the patients showed abnormal color vision and Chi-squire test yielded a significant difference between base line color vision and color vision with contact rose -K CL P value 0.016. The base line contrast sensitivity ranged from 0.5 to 125 with mean of 1.08 ± 0.14 . 62% of the patients showed abnormal base line contrast sensitivity compared to 100% of normal contrast sensitivity with rosek2 mean 1.25 ± 0.00 . Paired sample t-test showed a significant difference between baseline contrast sensitivity and after wearing rose K contact lens P 0.000.

Conclusions: Rose -K RGP contact lenses significantly improve the visual performance of keratokonic eyes, therefore contact lens should be used in treatment of KC to enhance visual performance.

Key words: Vision, keratoconus, color vision, contrast sensitivity.

Biography

Nuha Fath Elrahman obtained PhD in Optometry and Visual Science in 2009. She started the Department of Medical and Ophthalmic Photography and is the Head of the Department of Medical and Ophthalmic Photography at Al-Neelain University, Sudan. She is a Member of Al-Neelain University Senate and General and Academic Secretary of Sudanese Union of Optometrists. She is a Member of the Medical and Health Professional Council and AOA, and attended many international conferences.

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