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Poster Abstracts
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A study of the frequency of corneal ectasia in young children

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Purpose: To determine the prevalence of corneas that are at risk of developing ectasia or that already exhibit signs of this condition, based on baseline data from young patients aged between 8 and 12 years participating in a study on myopia control.
Method: A retrospective study based on data from a full cohort of 99 participants enrolled in a myopia control study conducted at the Montreal University Vision Clinic (CERC 19-071-P).. Participants were myopic children of Caucasian-C (27.5%), Asian-A (52.5%), Afro-American-AA (5.1%) and Latino-L (14.9%) origin, aged 8 to 12 years, and with a male/female ratio of 53.6/46.4%. This cohort is representative of the young patients consulting at this clinic for myopia management. Corneal measurements were taken using a Pentacam Oculus tomograph (USA) and analysed according to the final D parameter. This analysis classified corneal topography maps as normal, suspicious or positive for keratoconus. Corneal biomechanics were measured using a dynamic analyser (Corvis ST, Oculus, USA). These measurements were used to derive indices (CBI, DA ratio, ARTh, SP-A1 and SSI) that categorise the cornea as normal or as presenting with mild, moderate or advanced risk for keratoconus. The frequency of each of these categories was calculated.
Results: Analysis of the tomographic data showed that 9.09% of participants were showing indices of corneal ectasia. (18.5% C, 13.7% A, 35.7% L). Based on biomechanical factors, this figure rises to 30.30%, from whom are suspected of presenting mild risk of ectasia (7% C and 19.6% A) , 5.05% a moderate risk (11.1%C, and 21.2% L) and 3.03% advanced conditions (3.7% C, 7.8% A, 14.2% L)which can be considered suspicious of ectasia. Obviously, ethnical origin is considered a key factor in these findings.
Conclusions: The proportion of corneas at risk of ectasia is high in this sample but echoes previous published data by other authors. Early screening using tomography and corneal biomechanical parameters should be carried out when kids are consulting for contact lens fit/myopia control.

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