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MILD MYOPIA

Abstract: Complex myopic astigmatism is a prevalent refractive error in Uzbekistan, characterized by the combination of myopia and astigmatism. Diagnosis involves a comprehensive eye examination, and management options include corrective lenses, refractive surgery, and orthokeratology. Improving access to eye care services and raising awareness about refractive errors are crucial for addressing complex myopic astigmatism in Uzbekistan.

Keywords: Astigmatism, refractive error, myopia, Uzbekistan, eye care.

Annotatsiya: Murakkab miyopik astigmatizm O'zbekistonda keng tarqalgan refraktsion tur bo'lib, miyopiya va astigmatizmning kombinatsiyasi bilan tavsiflanadi. Tashxis ko'zni keng qamrovli tekshirishni o'z ichiga oladi va boshqaruv variantlariga tuzatuvchi linzalar, refraktsion jarrohlik va ortokeratologiya kiradi. O'zbekistonda murakkab miyopik astigmatizmni hal qilishda ko'zni parvarish qilish xizmatlaridan foydalanishni yaxshilash va refraktsion turlar haqida xabardorlikni oshirish muhim ahamiyatga ega.

Kalit so'zlar: Astigmatizm, refraktsion xato, miyopiya, O'zbekiston, ko'z parvarishi

Аннотация: Сложный миопический астигматизм - распространенная аномалия рефракции в Узбекистане, характеризующаяся сочетанием миопии и астигматизма. Диагностика включает комплексное обследование глаз, а варианты лечения включают корректирующие линзы, рефракционную хирургию и ортокератологию. Улучшение доступа к офтальмологическим услугам и повышение осведомленности об аномалиях рефракции имеют решающее значение для решения проблемы сложного миопического астигматизма в Узбекистане.

Ключевые слова: Астигматизм, аномалия рефракции, близорукость, Узбекистан, офтальмология.

Introduction

Complex myopic astigmatism is a significant refractive error that affects a considerable proportion of the population in Uzbekistan. This condition is characterized by the combination of myopia, or nearsightedness, and astigmatism, an irregularity in the curvature of the cornea or lens [1]. The co-occurrence of these two refractive errors results in a more complex visual disturbance that can impact an individual's quality of life and daily functioning [2]. In Uzbekistan, where access to eye care services may be limited in certain regions, addressing complex myopic astigmatism is a crucial public health concern.

Epidemiology in Uzbekistan

While there is limited data on the specific prevalence of complex myopic astigmatism in Uzbekistan, regional studies suggest that this condition is a significant burden. In a study conducted in neighboring Kazakhstan, the prevalence of myopia among school-aged children was found to be 16.6%, with astigmatism present in 26.9% of the participants [3]. Similar

prevalence rates have been reported in other Central Asian countries, such as Kyrgyzstan and Tajikistan [4][5].

Given the shared genetic and environmental risk factors across the region, it is reasonable to estimate that the prevalence of complex myopic astigmatism in Uzbekistan is comparable to that of its neighbors. However, more comprehensive epidemiological studies are needed to accurately determine the burden of this condition in the Uzbek population.

Diagnosis and Management in Uzbekistan

Diagnosis of complex myopic astigmatism in Uzbekistan involves a comprehensive eye examination, including visual acuity testing, refraction, keratometry, and corneal topography [6]. Access to advanced diagnostic equipment may be limited in certain regions of the country, particularly in rural areas. Telemedicine and mobile eye clinics can play a crucial role in expanding access to diagnostic services and improving early detection of refractive errors [7].

Management of complex myopic astigmatism in Uzbekistan primarily involves the use of corrective lenses, such as glasses or contact lenses. Spectacles are the most common and affordable option, but the availability of high-quality lenses and frames may be limited in some areas. Toric and multifocal contact lenses are effective in correcting astigmatism and presbyopia, respectively, but their use may be restricted by cost and accessibility [8].

Refractive surgery, such as LASIK, PRK, and SMILE, is available in select ophthalmology centers in Uzbekistan, particularly in urban areas. However, the high cost of these procedures and the limited number of trained surgeons may make them inaccessible to a significant portion of the population. Orthokeratology, a non-surgical option involving the use of specialized contact lenses to reshape the cornea, is gaining popularity in Uzbekistan as a means of myopia control in children.

Public Health Implications and Future Directions

Addressing complex myopic astigmatism in Uzbekistan requires a multi-faceted approach that focuses on improving access to eye care services, raising awareness about refractive errors, and promoting early detection and intervention. Integrating eye health into primary care services and school health programs can help identify and manage refractive errors in a timely manner.

Public education campaigns should aim to dispel misconceptions about refractive errors and encourage individuals to seek regular eye examinations. Collaborations between the government, non-governmental organizations, and the private sector can help expand the reach of these initiatives and ensure the sustainability of eye care services in Uzbekistan.

Future research should focus on conducting comprehensive epidemiological studies to better understand the prevalence and risk factors for complex myopic astigmatism in the Uzbek population. Evaluating the effectiveness and cost-effectiveness of various management strategies, particularly in the context of Uzbekistan's healthcare system, can help inform policy decisions and resource allocation.

Conclusion

Complex myopic astigmatism is a significant public health concern in Uzbekistan, affecting a considerable proportion of the population. Diagnosis involves a comprehensive eye examination, and management options include corrective lenses, refractive surgery, and orthokeratology.

Improving access to eye care services, raising awareness about refractive errors, and promoting early detection and intervention are crucial for addressing this condition in Uzbekistan.

Collaboration between stakeholders and the integration of eye health into primary care and school health programs can help improve the management of complex myopic astigmatism. Future research should focus on conducting epidemiological studies and evaluating the effectiveness of various management strategies in the context of Uzbekistan's healthcare system. By addressing this condition, Uzbekistan can improve the visual health and quality of life of its citizens.

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