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Commentary

Note on Vision Defects

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DESCRIPTION

Ultra-Wide-Field (UWF) myopia imaging, clinical relevance: Myopia, especially high myopia and pathological myopia, pose unique challenges for fundus mirror imaging. The key pathology is usually located in the most forward part of the retina, and changes in the contour of the posterior segment are difficult to capture in a two-dimensional image, and the extreme axial length makes it difficult to focus the imaging device simply. Methods: We review the evolution of ophthalmic imaging, optical coherence topography, angiography, artificial intelligence to current UWF technology and its impact on our understanding of myopia. Result: The advancement of UWF technology has solved many challenges in myopic ophthalmoscope imaging and has provided new insights into the structure and function of myopia. UWF CFP has improved our ability to detect and record pre-peripheral lesions that are prevalent in approximately half of patients with high myopia. UWF OCT better captures the contour of the botryoides of myopic eyes, provides better visualization of the vitreous retinal interface and the gradual development of myopic traction macular degeneration. UWF angiography highlights the posterior vortex veins, fine choroidal capillaries, distant peripheral a vascularization, and the most common peripheral retinal capillary microaneurysms in myopic eyes. Researchers have proven the ability of artificial intelligence algorithms to predict refractive errors, and artificial intelligence technology still has great potential in the detection and prevention of myopia diseases. Conclusion: We have observed that we have made significant progress in our ability to capture anterior pathology and better posterior image quality in patients with high myopia and pathology. The next leap in UWF imaging will be the ability to capture high-quality mouth-to-mouth fundus images in a single scan, enabling sensitive AI-assisted detection of myopia diseases. A review of peer-reviewed publications on the clinical, pathological, pharmacogenetic and molecular genetic characteristics of SJS/TEN in PubMed was reviewed. Provide detailed clinicopathological descriptions of the SJS/TEN eye, ocular appendages and skin findings, summarize the pathogenesis and related conditions, and provide the latest information on molecular genetic modifications leading to phenotypic variation and genetic susceptibility of SJS. Conclusion: HLA subtype and other genetic testing may ultimately be valuable in preventing the debilitating ocular sequelae of SJS, especially because it is related to drug use. Ophthalmology has always been at the forefront of the medical profession using artificial intelligence. This is mainly due to the "image-centric" nature of the field. Thanks to a large number of patient OCT scans, OCT image analysis greatly benefits from artificial intelligence to expand the scope of patient detection and facilitate clinical decision-making. In this, we define the concepts of artificial intelligence, machine learning and deep learning and the differences between them. Intelligent algorithms have been applied to OCT image analysis for disease screening, diagnosis, management and prognosis. Finally, we solved some of the challenges and limitations that may affect the application of artificial intelligence in ophthalmology. These limitations mainly revolve around the quality and accuracy of the data set used in the algorithm and its generalization, false positives, and the cultural challenges of adopting the technology.

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