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Sommario/riassunto	The concept of advanced therapy medicinal products (ATMPs) encompasses novel kinds of medicines for human use that are based on genes, cells or tissues. These intend to offer not only regeneration, but complete functional recovery of diseased tissues and organs using different strategies. Gene therapy, cell therapy and tissue engineering are the main areas in which promising advanced therapies are emerging. The eye is a very complex organ whose main structures, the cornea and the retina, play a pivotal role in maintaining normal vision, as severe alterations in these tissues can lead to blindness. Ocular tissues are starting to benefit from ATMPs by fighting against the enormous complexity and devastating potential of many ocular diseases. However, developments arising from this field of work face important challenges related to vectors to deliver drugs and genetic material to target tissues, suitable biomaterials to prepare cell scaffolds and cell stemness, among others—not to mention the complicated legislation around ATMPs, the complexity in production and quality control and the absence of standardized protocols.The purpose of this Special Issue is to serve as an overview of the current progress in the application of cell and gene therapies, as well as tissue engineering to restore functionality in diseased ocular structures, and the challenges linked to reaching patients.