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Editorial Open Access

Prologue to the Special Issue: Age-Related Macular Degeneration

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Editorial

Age-related macular degeneration (AMD) is a leading cause of irreversible vision loss among people age 50 and older. Based on the presence or absence of blood vessels, it is classified into two types, wet and dry. In the past decades, significant progress has been made in understanding the molecular mechanisms underlying wet AMD, and several robust therapeutic drugs were developed to block the development of new blood vessels and leakage from the abnormal vessels with favorable clinical effect.

In contrast, there are no approved treatments for dry AMD and the mechanisms are not completely known. However, it has been approved that genetics, complement dysregulation, oxidative stress, mitochondria DNA damage were involved in the mechanisms. Variety of scientific studies, including gene replacement therapy, retinal cell transplantation, pharmaceutical intervention and vitamin dietary supplementation, hold promise in developing treatment to prevent or slow the progression of the disease. In the clinical aspect, multiple clinical studies and trials have been done to further our knowledge of AMD, and ongoing studies are raising hopes for improved treatments.

This special issue is dedicated to present latest advances in studies of retinal degeneration, including clinical studies, case reports, epidemiological analysis, as well as basic science studies related to the retina and AMD. In this special issue we aim to highlight the extent to which molecular biology in the retina and its relationship with AMD. Specifically, we seek manuscripts that decribes how biological changes in different cell types, e.g., Muller cells, photoreceptors and retinal pigmented epitheliums, contributed to the AMD development. In addition, new therapeutic targets and approaches in the treatment of dry AMD are also of interest. We welcome all formats of manuscript like review articles, short communications/reports and original research papers. We wish to acknowledge and sincerely thank many authors, reviewers and journal personnel for their hard work and dedicated efforts.