Corneal dystrophies are a group of diverse bilateral genetic and non-inflammatory diseases limited to the cornea. These diseases are often characterized by the accumulation of abnormal material in the cornea. Clinically, these diseases are categorized into three groups, namely superficial corneal dystrophy, corneal stromal dystrophy, and posterior corneal dystrophy, which these groups are further subcategorized into other classes. One Macular corneal dystrophy (MCD) is a subcategory of corneal stromal dystrophies, which is characterized by bilateral cloudy regions within a hazy stroma, eventually leading to severe visual impairment. Mutation in the carbohydrate (N-acetylglucosamine-6-O) sulfotransferase 6 (CHST6) gene is typically responsible for MCD. However, it is also caused by other factors, and not all cases of MCD can be explained by mutations in the CHST6 coding region, deletion, or replacement in the upstream region, or mutations in splice sites, resulting in loss of splicing signal.

Retinitis pigmentosa (RP) is a disease that causes a variety of disorders. Some patients show symptoms of vision loss during childhood, while others live without showing any symptoms until their middle age. Most cases present with classical symptoms such as night blindness (nyctalopia) and difficulties adapting to darkness and night blindness (nyctalopia) in old age and loss of vision in early adolescence. Following the With advanced disease progression, patients lose their distant peripheral vision, develop tunnel vision, and finally lose their central vision, which usually occurs at around the age of sixty years of age. The reduction in rods and cones is similar among other types of RP disorders. Sometimes, the decrease in cones is greater than that in rods, which is then called cone–rod degeneration, a form of RP in which the loss of vision and defects in color vision are the predominant initial symptoms.