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Understanding the guttata cytotoxicity present in Fuch's Endothelial Corneal Dystrophy

Fuch's Endothelial Corneal Dystrophy (FECD) features irregular collections of guttata-like structures on the Descemet's Membrane. Progressive loss of endothelial cell density suggest that the cells respond to biophysical surface cues offered by the guttata. The exact molecular mechanism has yet to be elucidated. It is hypothesized that the guttata alters the mechanobiology of the corneal endothelial cells, thus leading to clinical manifestations of FECD. The objective of the project is to elucidate the pathogenesis of FECD, specifically the cytotoxic interaction between the guttata and corneal endothelial cells.