A feasible molecular tool to detect mRNA expression of matrix metalloproteinases and tissue inhibitors of metalloproteinases in human specimens of Tenon's capsule.

邱文祥

Huang;YL;Liu;;Catherine J.;;Chiu;Allen W;;;

摘要

Abstract

Purpose: To determine the mRNA expression of matrix metalloproteinases (MMPs) and tissue inhibitors of metalloproteinases (TIMPs) in human specimens of Tenon's capsule. Methods: Reverse transcription-polymerase chain reaction (RT-PCR) with specific primers for MMP-1, MMP-2, MMP-9, TIMP-1 and TIMP-2 was performed on tissue specimens obtained from patients with cataract, rhegmatogenous retinal detachment, glaucoma, or diabetes mellitus. Results: Glyceraldehyde phosphate dehydrogenase (GAPDH) mRNA transcripts were detected in 26 (76.5%) of 34 specimens, with almost the same amount of expression in each of these samples. Messenger RNA expression of one or more of the MMPs/TIMPs could also be detected in all of these 26 samples, but not in any sample without GAPDH expression. MMP-2, TIMP-1 and TIMP-2 were detected in 25 (96.2%) of the 26 samples with GAPDH expression, while MMP-1 and MMP-9 were detected with a lower percentage (34.6 and 19.2%, respectively). Conclusions: The feasibility of RT- PCR with GAPDH as an internal standard to determine mRNA transcripts of the MMPs and TIMPs in the subconjunctival Tenon's capsule was demonstrated.