

Enhanced Tear Production

Trigger of Lacrimal Gland Inflammation

The Challenge of Continuity - Possible Begin of Dry Eye Disease

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Conclusions:

Continued or intense tearing could activate inflammatory mediators in the lacrimal gland. Over time, this could trigger inflammation and impair lacrimal gland function. Excessive tearing in response to irritative stimuli (Dryness, Cold, Pain) should be treated.

Slutsatser: Fortsatt eller intensiv tårbildning kan aktivera inflammatoriska mediatorer i tårkörteln. Med tiden kan detta utlösa inflammation och försämra tårkörtel-funktionen. Kontinuerligt och för kraftigt tårflöde som svar på irriterande stimuli (torrhet, kyla, smärta) bör behandlas.

Introduction:

Enhanced tear production is one of the reasons for the "Watery Eye". As response to irritative stimuli (Dryness, Cold, Pain) it is considered a discomfort and disturbing. But could it be or become more ?

van Setten 2024

Dry Eye Disease / Det Torra Ögat

Small Signs	Små tecken
Major Complaints	STORA BESVÄR
<ul style="list-style-type: none">DiscomfortWatery eyesRed EyesAches and burnsVisual disturbancesTear film instabilityPotential damage to the eye surface	<ul style="list-style-type: none">ObehagRinnande ögonRöda ögonenVärk och svedaSynstörningarTårfilmsinstabilitetPotentiell skada på ögonytan

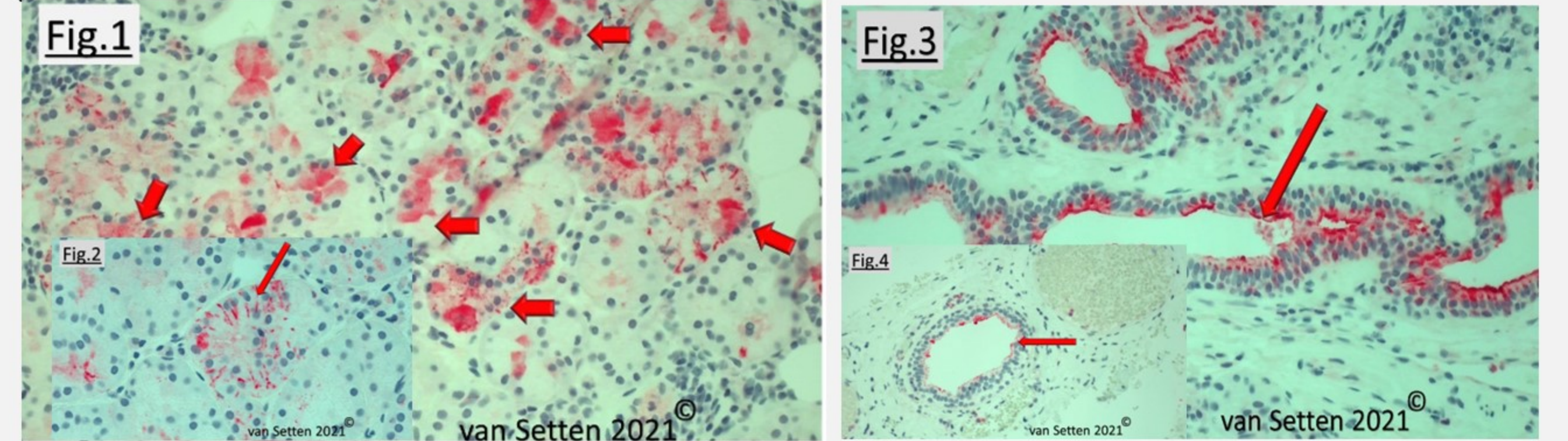
Aim: To investigate the presence of any indicators in the lacrimal gland that could indicate the onset of localized inflammation without antibodies against lacrimal gland tissue. The hypothesis was that inflammation of the lacrimal gland in dry eye disease could be triggered and maintained by local mechanisms within the lacrimal gland alone.

Methods: Presence of flow sensitive G protein-coupled receptor 68 (GPR-68) was investigated immuno-histochemically in human lacrimal gland tissue.

Results: G protein-coupled receptor 68 (GPR-68) is present in the acini and the ducts of the human lacrimal gland

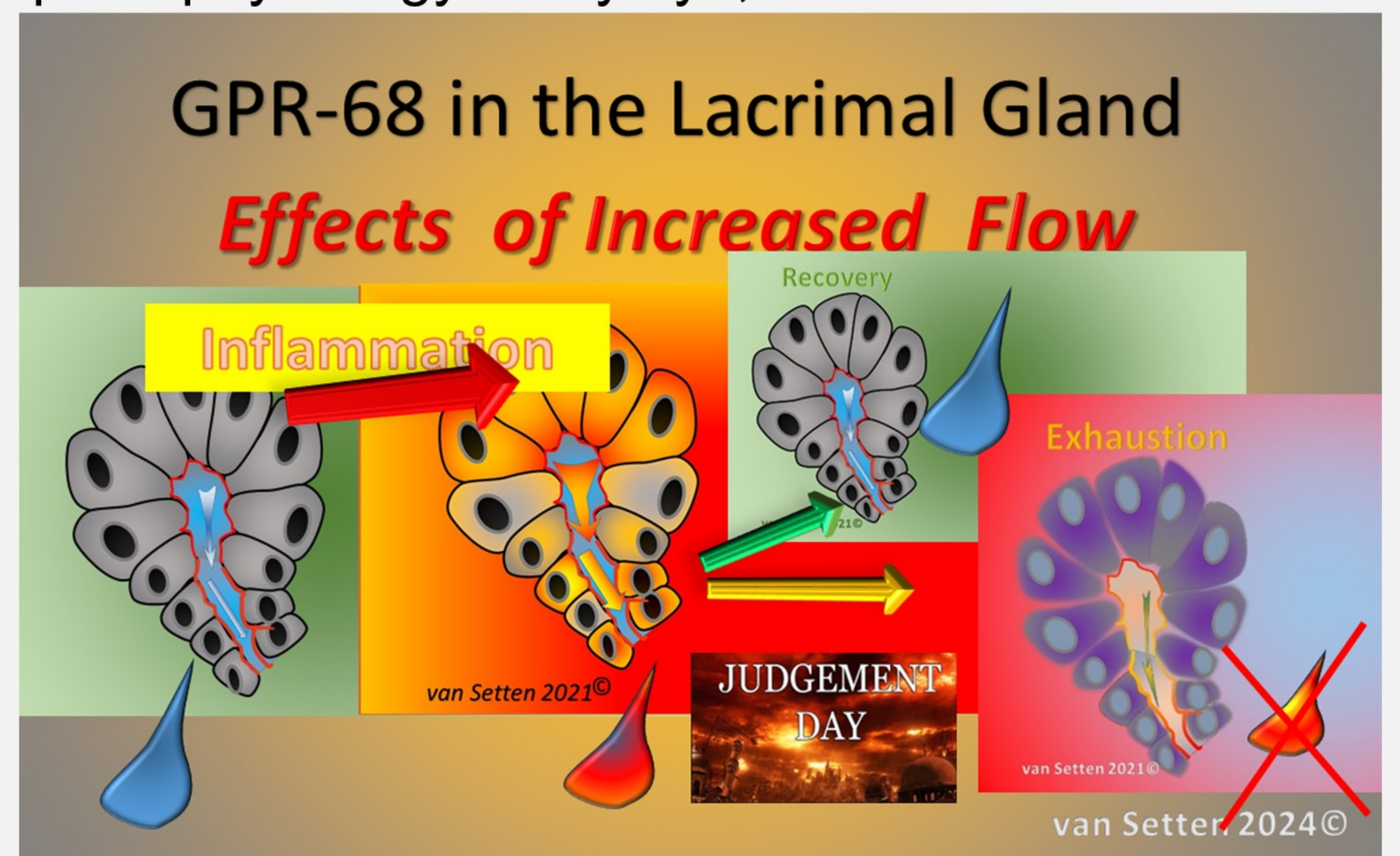
G.-B. van Setten: *GPR-68 in human lacrimal gland. Detection and possible role in the pathogenesis of dry eye disease*, Journal Français d'Ophthalmologie 45 (8) 2022:921-927.

GPR-68 is located in the acini and ducts of the human lacrimal gland (pictures from van Setten, 2022)



Discussion:

G protein-coupled receptor 68 (GPR-68) is located in the ducts of the human lacrimal gland. It is possible that increased, excessive, flow it might play a decisive role in the onset of focal inflammation. Such inflammation, when prolonged or chronic, could lead to impaired function of the lacrimal gland. Triggers of excessive tearing such as irritation, should have a significant role in the pathophysiology of dry eye, and should be treated



Model of flow related, GPR-68 mediated inflammation in the lacrimal gland and its potential pathophysiological effects.

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Past and ongoing research focuses on new understanding of Dry Eye Pathophysiology and Wound Healing in the Eye.

NEW TERMS / MODELS / CONCEPTS :
OSMOKINETICS **ATTRITION**
ALLOSTASIS