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Assessment of Meibomian glands morphology and tear film quality in dogs diagnosed with idiopathic sebaceous adenitis or leishmaniosis: a pilot study

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Introduction

Meibomian glands are holocrine, modified sebaceous glands, located in the tarsal plate of the eyelids. They provide the oily component to the precorneal tear film, thus retarding evaporation of tears over the cornea. Interest in meibomian gland dysfunction (MGD) is growing in veterinary medicine and has been identified in 70% of eyes with ocular surface disorders. MGD is a multifactorial condition and research on potential role of comorbidities is lacking. As meibomian and sebaceous glands share similar anatomy and physiology, this study focus on idiopathic sebaceous adenitis (SA) and canine leishmaniosis (CL), two diseases with skin disorders related to inflammatory infiltration of sebaceous glands.

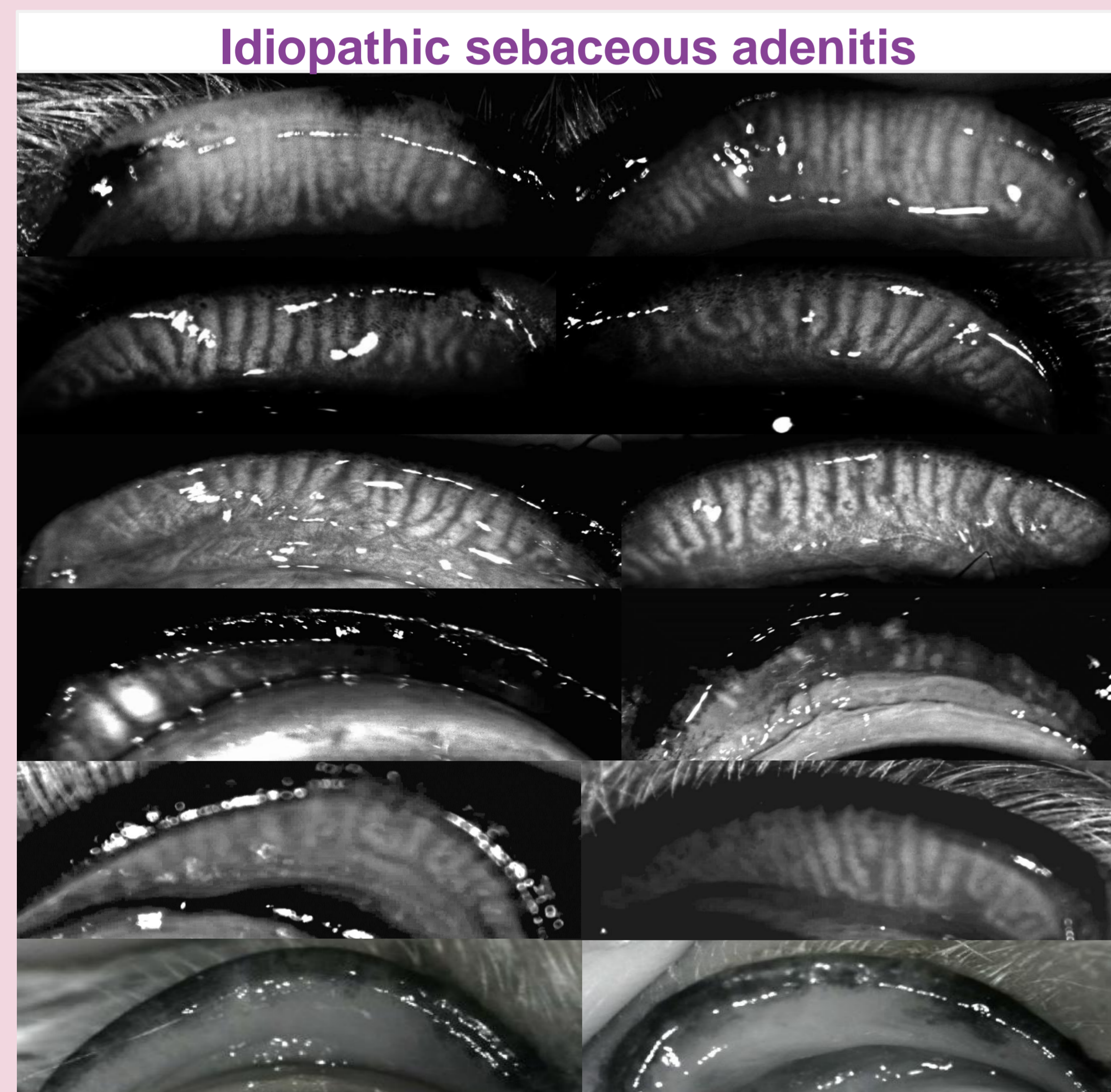
Methods

Idiopathic sebaceous adenitis
Histopathology

Leishmaniosis
Serology
+/- Histopathology

- Ophthalmic examination
- Dermatologic examination
- Tear film interferometry (OSA-VETND)
- Noncontact infrared meibography (OSA-VETND)
- Schirmer tear test 1
- Fluorescein staining

Meibography



Morphological abnormalities

< 25 %

> 75 %



< 25 %

> 75 %

Results

Clinical examination

MG morphological change	< 25%	> 75%
Mild ocular pruritus	4/7	2/2
Epiphora	3/7	2/2
Conjunctival hyperemia	3/7	2/2
Corneal neovascularization / fibrosis	0	2/2
Corneal ulceration	0	0
Punctate superficial fluorescein staining	0	2/2
STT-1 values < 15mm/min	0	0

Severe cases Meibomian gland abnormalities > 75%



Interferometry

Score of 1 for all dogs



Conclusion

Meibography detects various level of meibomian gland atrophy in dogs affected with idiopathic SA or CL. In most cases, the clinical impact was inconsequential, but in two cases, severe ocular surface alteration was observed. History of chronic disease (1 SA, 1 CL) without adequate therapy was reported for the two severely affected cases.

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