

CORRESPONDENCE

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Lid Retraction as an Indicator of Lagophthalmos in
Leprosy; A Preliminary Report

TO THE EDITOR:

Lagophthalmos is a well-recognized complication that occurs in leprosy. If not accorded proper treatment it can initiate a pathological process that may lead to blindness. Fortunately, it is also a complication that would, if diagnosed early, respond to steroid therapy. Unfortunately, most of the lagophthalmos seen in leprosy eye clinics are those of a duration that preclude effective steroid therapy. In such late situations the only recourse is to undertake some form of lid surgery to safeguard the eyes against the deleterious sequelae that can eventually end in blindness. Surgical correction of lagophthalmos is not yet a perfect art, and the various surgical procedures in use today have their own set of drawbacks, from poor cosmetic results encountered after lateral tarsorrhaphy to latrogenic entropion seen in some temporalis muscle transfer surgeries. The onus of effective treatment of lagophthalmos is being increasingly laid on making an early diagnosis of the condition and treating it with a steroid regimen.

Although certain factors, such as an unstable position in the spectrum of the disease, the occurrence of a face patch and the first 6 months of multidrug therapy (MDT), have been identified as risk factors for developing lagophthalmos, it is still an extremely difficult job to spot an early lagophthalmos clinically. Two of the signs that can provide clues to the examining person of an early lagophthalmos are: 1) an abnormal blink reflex, the lagophthalmos preventing the approximation of the upper and

lower lids during a blink, and 2) lacrimation or tearing caused by the gap produced between the lacrimal puncta of the lower lid and the globe due to the laxity of the lower lid orbicularis oculi fibers.

We have noticed another sign, retracted lids, that could be added to the existing signs to help the examining leprosy worker pick up early cases of lagophthalmos. Retraction of the eyelids is present when the lower eyelid exposes sclera beneath the inferior limbus or when the upper eyelid is at or above the superior limbus. The retractors of the upper eyelid are the levator palpebrae superioris muscle and the sympathetically innervated superior tarsal muscle (Muller's muscle). In the lower eyelid the retractors are the capsulopalpebral fascia and the inferior tarsal muscle. The muscle of protraction in the lid is the orbicularis oculi muscle. The width of the palpebral fissure is determined in part by the level of tonic activity in the levator palpebrae superioris and Muller's muscles which raise the upper eyelids, and the orbicularis muscle which closes the lids. When paralysis of the orbicularis oculi occurs, it would not be unusual for the unopposed retractors of the lid to overact and cause slight retraction of the lids. This can be seen clinically as a strip of white sclera above the 12 o'clock position and below the 6 o'clock position of the corneal limbus. Normally, the margin of the upper eyelid rests just below the level of the upper limbus and obscures its margin from approximately 10 to 2 o'clock. The upper 2 mm of the cornea is, therefore, covered and

no sclera is visualized above the limbus. Classically, lid retraction is seen in thyrotoxicosis but in leprosy patients, especially those in whom other risk factors for developing lagophthalmos have been identified, retracted lids should alert suspicion of a lagophthalmos. At present we do not know what percentage of early lagophthalmic patients exhibit this phenomenon since we have seen this in only two patients, but we have found several patients with established late lagophthalmos exhibiting lid retraction. Looking for eyelid retraction may, therefore, be a worthwhile exercise that would aid leprosy workers in picking up lagophthalmos during cursory examinations in the field.

While evaluating and recording lagophthalmos, it is customary to record two measurements, the midpalpebral vertical width when the patient is asked to gently close the eyes and the midpalpebral vertical width when the patient attempts to forcefully close the eyes. These measurements are taken using a transparent scale and recorded in millimeters. We recommend that one more measurement be introduced in the evaluation of lagophthalmos, that of the midpalpebral vertical width with the patient gazing at a far distance. Preliminary recordings of this in several patients with lagophthalmos

have shown that the midpalpebral vertical width during straight distant gaze is more than what is normally seen in leprosy patients without lagophthalmos and in healthy individuals. In normal adults the palpebral width is 8 to 11 mm wide vertically (¹). We have recorded widths of 13 to 15 mm in leprosy patients with lagophthalmos. This straight, distance gaze, midpalpebral vertical width recording may also be useful in evaluating the recovery from lagophthalmos in patients receiving treatment, and may prove to be a more sensitive indicator than the other two recordings.

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