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Epiphora in facial paralysis

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SUMMARY. **Current management concepts of epiphora in established facial palsy are reviewed and compared with those advocated by McLaughlin and criticised by Stallard in 1949.**

McLaughlin (1949) correctly stated that epiphora in facial paralysis is one of the worst features of the condition. He described 3 simple procedures for reducing the symptoms which remain effective today. He clearly stated that the cause of epiphora is "inaction of the orbicularis oculi muscle" and, in the absence of any surgery to reinnervate the muscle, one of the prime objectives must be to restore the position of the lower lid. He advocated a lateral tarsorrhaphy and medial canthoplasty. His lateral tarsorrhaphy involved overlapping the lateral portion of the lower lid by the upper lid. The procedure produces an excellent cosmetic result and is the permanent lateral tarsorrhaphy of choice in many current eyelid surgery textbooks (Collin, 1989). His medial canthoplasty involved the transposition of a flap of upper eyelid skin to the lower lid with some advancement to help to pull the lower lid upwards and medially. This is most effective if there is a cicatricial element to the ectropion. If there is no cicatricial element a medial canthoplasty as described by Lee (1951), in which the canalicular parts of the eyelids are sutured together, has the advantage of reducing the vertical interpalpebral distance more effectively. If there is an associated cicatricial element to the ectropion, the two techniques can be combined.

Although a lateral tarsorrhaphy and medial canthoplasty support the lower lid, they do not correct the marked laxity which is always present in a long-standing, total seventh nerve palsy. The lower lid can be tightened anywhere but, since the laxity occurs in the orbicularis muscle and its medial and lateral canthal tendons rather than in the tarsus, it is logical to shorten the lid medially or laterally. A lateral canthal sling, as originally described by Tenzel (1969) is effective and has the advantage that the lateral attachment of the lid can be raised to aid the gravitational drainage of tears towards the medial canthus. The prime site of lower lid laxity is, however, the medial canthal tendon and if a lid is tightened laterally, the inferior lacrimal punctum can often be displaced as far as the pupil. A simple shortening of the anterior limb of the medial canthal tendon usually results in a medial and antero-positioning of the inferior lacrimal punctum. If the medial canthal tendon is to be adequately shortened, the posterior limb must be reformed. Such a procedure with resection of the inferior canaliculus has been shown to work well after a long follow up (Sullivan and Collin, 1991). It is, however, only indicated in those cases of seventh nerve palsy with significant medial canthal tendon laxity in whom a simple medial canthoplasty and lateral canthal procedure would not be adequate.

When McLaughlin (1949) described his procedure of medial canthoplasty and lateral tarsorrhaphy he also described the opening of the inferior canaliculus with a large "3 snip". His purpose was to make "the new ostium as near as possible to the lacrimal sac thus making the passage through which tears must travel as short and direct as possible". Stallard, in his letter to the editor (1949), opposed this procedure and emphasised that it was the "position and not the size of the opening into the lower canaliculus that matters". It is possibly for this reason that the resection of the medial canthal tendon and canaliculus works effectively since the lacrimal punctum is reconstructed and repositioned. Most ophthalmologists consider that a large "3 snip" as described by McLaughlin (1949) does not reposition "the opening into the lower canaliculus" into the tear film unless the posterior limb of the medial canthal tendon is reformed and therefore it does not help tear drainage. If there is any chance of recovery or any residual seventh nerve function, such a large "3 snip" is contraindicated since it will prevent the ability of the lacrimal punctum to seal itself and allow tears to be passed down the lacrimal passages into the nose by the normal physiological pumping mechanisms.

McLaughlin's classic paper (1949) may not seem very relevant today but, at the time that it was written, it made an enormous contribution. The principles that he enumerated are still valid and the techniques are effective for repositioning a lower lid provided there is no excess lid laxity. His lateral tarsorrhaphy had the additional advantage of helping to reduce the palpebral aperture. Today, if the palpebral aperture is excessive because of lid retraction due to overaction of the unopposed levator palpebrae superioris muscle and this is thought to contribute to epiphora, the upper lid retractors can be recessed to lower the lid, but this procedure was not described until 1965 (Henderson, 1965). The value of "permanently dilating the lacrimal punctum" remains disputed but if after repositioning the eyelids as accurately as possible

epiphora still remains a problem, a dacryocystorhinostomy and lacrimal bypass tube has been shown to be effective (Leatherbarrow and Collin, 1991). Although this makes use of the negative pressure inside the nose on inspiration to facilitate tear drainage, it does depend on a permanently dilated lacrimal opening, even if in this case it is provided by the pyrex lacrimal bypass tube. The creation of a permanent fistula from the conjunctiva into the nose without the use of a bypass tube has so far eluded almost all reconstructive attempts. However, if it were achieved, it would satisfy McLaughlin's postulate and should prove effective.

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