Nursing of Diseases of the Eye.

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DISEASES OF THE LACHRYMAL APPARATUS

The lachrymal apparatus is often the subject of disease. Excessive watering of the eye is a not uncommon complaint, and may be due either to defect in the excretory apparatus, or to hyper-secretion. Most people are troubled with the latter, more or less, during cold, windy weather. In the case of some few, however, the irritability of the conjunctiva is so great that they cannot meet a wind at all without tears streaming down their face. This hyper-secretion is very difficult to check permanently. Astringents, especially alum, are of some little value; and the application of cocaine or eucaine, by producing more or less marked anæsthesia, prevents the reflex outpouring. The use of these latter drugs is accompanied by obvious disadvantages. The anæsthesia may allow the lodgment of harmful foreign bodies which would normally be immediately carried away by the tears. If a strong solution be used, the corneal epithelium may become dry and strip off, leaving an extensive raw surface. Lastly, by the associated mydriasis an attack of acute glaucoma may be produced.

Sometimes similar cases of apparent hyper-secretion can be shown really to be due to defects in the excretory apparatus; unless the puncta are in apposition with the globe, the tears are not able properly to enter and be carried off by them. So long as one remains in contact, the small amount of secretion normally present may be carried off efficiently. So soon, however, as there is any increase from some small irritation, the single channel is insufficient, and an overflow takes place. In these instances it is commonly the lower punctum that is at fault and is slightly everted.

The cause of the malposition is variable; not uncommonly the conjunctiva is inflamed and congested, and by its swelling pushes the lid away from the globe. More frequently a slight failure of the orbicularis causes the whole lid to drop. This is specially marked in cases of paralysis of the seventh nerve (facial or Bell's paralysis), when the lids cannot be closed. The loss of expression on the affected side soon draws attention to the lesion. In both of these instances the lachrymation is usually only temporary.

In the first, to bring the conjunctiva back to a healthy condition suffices to effect a cure. With the diminution of the congestion and swelling, the lids reassume their natural position. In the latter, the paralysis is in most patients recovered from within a few weeks; the orbicularis regains its power, and the punctum is lifted once more into apposition with the globe.

In old people, however, there may be, without general failure of the facial, slight weakness and loss of tone of the orbicularis muscle. Here a slightly stimulating lotion will often mend matters for a time. When this mild treatment fails, it may be necessary to have recourse to operative interference. If the loss of power be only partial, we can produce slight contraction of the lid by drawing the galvano-cautery along the conjunctiva; this tends to shorten the lid, and to turn its margin inwards.

If greater, it may be necessary to divide the canaliculus in a considerable part of its extent, and thus convert it into an open gutter, some portion of which comes into contact with the globe. The opening must, of course, lie on the conjunctival surface of the lid.

If the lids are lax and the orbicularis weak, it sometimes happens that the pressure exerted by the holders of pince-nez draws the lids and puncta from true apposition and brings on a troublesome watering, of which it is not easy to detect the cause. The malposition is very slight, and may readily be overlooked. Disuse of the eyeglasses and the substitution of spectacles at once in these instances brings about a cure, unless from constant use the malposition has been rendered permanent. In such event the treatment required resembles that of the cases of ectropion from paralysis which have just been described.

Mechanical obstruction of the canaliculi is very rare, and they are seldom congenitally malformed. Where stricture of the lachrymal passages occurs it is almost always below the lachrymal sac. The lachrymal duct, contained within bony walls, cannot readily escape obstruction if there be any swelling of the surrounding parts.

If from any cause the calibre of the nasal duct be narrowed so that the free passage of the tears downwards is prevented, the sac behind the obstruction becomes dilated, owing to the accumulation of secretion, and an elastic, rounded swelling is formed whose situation is that of the lachrymal sac. It is, therefore, a little internal to the inner canthus and is crossed by the tendo oculi.* Since the fluid cannot escape, any further secretion of tears must be followed by lachrymation as the tears run over the cheek. Pressure on the dilated sac causes a regurgitation of fluid into the conjunctival sac through the canaliculi. It is no longer, after the earliest stages, merely tears; the dilated sac wall becomes slightly inflamed and discharges mucus, so that the contents are thick and regurgitate with difficulty. Later the fluid in the sac is infected by germs, which are carried in through the canaliculi, and the walls begin to pour out muco-pus, and the

* The tendo oculi is the fibrous band running inwards from the inner canthus to the bone, to which the orbicularis is attached.

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