

EPICANTHUS, TELECANTHUS AND BLEPHAROPHIMOSIS

JOHN C. MUSTARDE
England

Epicanthus folds —folds running across the medial canthi— are normal facial features in a very large section of the world's population. Indeed, if one includes all of the mongoloid races —the Chinese, the whole of the eastern Russians and most of the Japanese, as well many of the indigenous races of the North and South American continents—, it may well be that *absence* of such folds is present in less than half of all mankind.

In Britain, some 20-30% of new born infants have small epicanthal folds which disappear gradually, and only 3% of children have folds which persist into adulthood.

It is extremely rare to find unilateral epicanthus, but bilateral epicanthal folds may be found as an entity on their own, or accompanied by ptosis; more often they are present along with a degree of telecanthus —a term which I coined some thirty years ago to indicate an increase in the distance between the medial canthi.

Folds are also a feature of the complex syndrome known as blepharophimosis, which has a strong familial tendency with many successive generations of both males and females being affected.

If we leave consideration of blepharophimosis aside for the moment and look at the simpler forms of epicanthus it might seem reasonable to tackle the problem of the tight band forming the summit of the fold by using the Z-plasty principle of transposing flaps across any line of shortage so as to produce lengthening by introducing tissue from the dimension lying at right angles to the line of shortage. Many ingenious techniques, such as those of Blair and Spaeth have been described, based on this principle, but they all leave a final scar which, even if it is not a straight line, lies on the concave area on the nasal side of the medial canthus and shows the tendency which is always present in a scar lying in a concave area to form a band which, as it contracts, does so in a line which

bridges across the concavity --like a bow-string— and which may thus produce a secondary cicatricial fold which will ruin the aesthetic effect.

In order to avoid this possibility, the scar of the surgery must not lie in the concave area on the nasal side of the canthus but must run directly through the canthus itself, so that, if the scar does contract, it cannot produce the bow-string effect.

To achieve this, flaps of skin and underlying orbicularis muscle which transpose the excess tissue from the sides of the fold across the tight line of the summit of the fold should still be employed, but they are designed using a special simple formula --which can be applied in all cases of epicanthus, whether accompanied by telecanthus or not, and can even be used when telecanthus exists on its own without folds at all.

The first step is to mark a point on the skin at the site where the new canthus should lie. The nasal skin is drawn medially, obliterating the fold and revealing the existing canthus, which is similarly marked. These two points are joined, and from the centre lines are drawn at about 60, and a little shorter than the horizontal line. From the ends of the vertical lines, back cuts are drawn at roughly 45 and of the same length. Finally, paramarginal lines are drawn, also of the same length as the other two.

Where simple epicanthal folds exist without other clinical abnormalities, the site of the new canthus will coincide with the existing canthus lying beneath the fold, and only a half of the excision diagram will be visible without drawing the skin nasally. When the skin muscle flaps are raised and transposed the two marked points will coincide once the flaps are sutured in place.

If, however, telecanthus is also present along with the folds then, after the skin muscle flaps have been raised, the two points will not coincide and steps must be taken to move the actual canthus towards the mid line and the site of the new canthus, so that the points will actually meet. It will be necessary, having carefully exposed the superficial part of the medial canthal tendon by removing all excess muscle and fat around it, to resect a portion of it so as to shorten it and then re-attach it to the periosteum by a non-absorbable suture, thus bringing the medial canthi closer to the mid line. The small quadrilateral flaps may require some minor trimming in order to achieve an accurate fit into the triangular defects - a detail which is most important for the final appearance.

As mentioned above, where telecanthus alone is present and no epicanthal folds exist the same formula for designing the flaps is equally effective, and the shortening and re-attachment of the medial canthal tendons must again be carried out.

EPICANTHUS, TELECANTHUS AND BLEPHAROPHIMOSIS

Racial epicanthal folds, with or without telecanthus, can also be dealt with using the same formula, although in some cases it is also necessary to create a new upper lid fold at a higher level after removal of some of the pre-aponeurotic fat.

In a completely different category is that collection of orbital abnormalities which is called blepharophimosis —meaning tightness of the eyelids— which is invariably bilateral. The picture of this condition which most people hold in their minds is of a patient with a mongoloid appearance which results from a combination of ptosis, absence of upper lid folds, inverted epicanthal folds and marked telecanthus. To this we should add shortage of skin of all four lids, especially the lowers, as well as flattening of the supra-orbital ridges and arching upwards of the eyebrows. In different patients these features may be present in varying degrees —or even not at all— and surprisingly the most constant of them are the brow flattening and eyebrow arching.

The main difference in the treatment of blepharophimosis and the conditions we have looked at so far is that the telecanthus in the former is very much more marked, with up to 15-20 mm of increase between the medial canthi. This is not usually accompanied by a true hypertelorism, but may be associated with a moderate lateral displacement of the medial walls of the orbits without actual increase in width of the whole centre section of the cranium and maxilla with consequent lateral displacement of the entire orbits.

Treatment of the condition, apart from dealing with the epicanthal folds using the formula already described, basically consists of creating a large window in the medial wall and rim of the orbits so that the entire soft tissue of the medial canthus, including the whole of the lacrymal drainage apparatus, can be drawn bodily into the cavity of the nose in a backwards and medial direction, taking great care not to obstruct or interfere with the lacrymal drainage passages in any way. The canthal ligaments are then held in place permanently by a trans-nasal, wire.