

normally covered by the iris. The opacity here extends but little beyond the pupillary zone, and seems to be interposed between the centre or nucleus and the anterior half of the proximal surface of the lens. Vision is greatly improved by dilating the pupil.

I decided to make an artificial pupil in the left eye downwards and inwards, the situation best adapted for near vision, and to needle the cataractous mass in the right eye to promote its absorption.

These operations were accordingly done after the pupil in the left eye had been reduced by Eserine and the right fully and further dilated by atropine. Both have been attended by satisfactory results. Vision is now good for small objects in the left, where the patient has not only a small pupil admitting light to the eye, but retains her power of accommodation. The right eye will require further needling, perhaps a section or linear extraction; but there is every promise of satisfactory vision, with the help, perhaps, of a weak convex glass for distance and near work. I have since made a small linear extraction, and have got a clear pupil— $V=\frac{1}{3}$  without glasses.

Zonular cataract generally forms a greyish mass, which encloses the nucleus and which leaves, according as it approaches more or less to the capsule, after dilatation of the pupil by atropine, a varying border of transparent crystalline tissue. There may be only one opaque layer, or there may be two or three distinct layers, which may send out prolongations reaching almost to the margin of the lens. Vision will vary in proportion to the degree of the opacity. Some patients may be simply myopic—the habit they contract of bringing small objects close to the eyes must speedily render them so, even if their refraction were normal to start with. Others in whom the opaque layer is more extended—as in my young patient's right eye—are only able, after dilatation by mydriatics, to find their way about.

These cataracts are generally double, though the degree of opacity may vary in either eye. The subjects are often rachitic; hence the absence of dentine. They have generally had convulsions and are sometimes descended from cataractous progenitors.

My master, de Weeken, advises early operation, even in infancy. Nothing, he says, deteriorates vision like the want of regular function (use) during the growth of the eye. Nystagmus is sure, as in this case, to develop, if operative interference be delayed for years.

The first procedure is to dilate the pupils thoroughly with atropine and ascertain the amount and situation of transparent lens tissue. If a fair amount of lens margin be free, an artificial pupil will give the best result. Let it be a small one, to obviate the dazzling from a large opening, uncoverable by the lid, and because, with the development of the eye, it will enlarge itself. Downwards and upwards is the seat of election for it, but if the lens be not transparent in that situation, then directly inwards if possible, and outwards least of all.

If both eyes be equally effected, as usual, a mixed operation such as was done in this case is essentially practical. As these children are generally myopic you will give them near vision with the eye having the artificial pupil, the accommodation being undisturbed; whilst with the other, long sight will be rendered possible in consequence of the correction of the myopia by the lens extraction, whilst glasses may not be needed, or if any, a feeble convex one may suffice.

In needling, keep to the surface of the lens for fear of luxating it. The operation may have to be repeated several times, the course of treatment extending over months. The first needling should barely open the capsule; when repeated, one may cut deeply into the substance of the lens. Atropine, cold applications and rest from light for a few days will obviate any trouble or pain.