CASE OF CORNEAL AUTOTRANSPLANT*

BY

G. J. ROMANES

Royal Eye Infirmary, Weymouth

The prime indication for transplanting a graft of the patient’s own corneal tissue from one side to the other is the presence of a dense extensive corneal scar on a potentially seeing eye, while the other side has a clear cornea in an eye with an intractable and blinding lesion in the intra-ocular media or fundus.

Such cases are not commonly seen, but have been reported mainly because the best results are to be expected with a graft which uses the patient’s own tissues as donor material. Such a case is reported here.

The diagnosis and assessment of the donor eye is not difficult. The slit-lamp examination shows a clear and normal cornea, thus enabling an accurate ophthalmoscopic examination to be made which may reveal a fundus or other condition causing blindness. The problem is altogether different in the recipient eye, where the corneal opacity prevents a proper view of the fundus. The assessment of the retinal function depends largely upon the history. Special attention is paid to conditions likely to be associated with amblyopia, to injury, or previous eye treatment. The supporting examination relies almost entirely on the projection of light test. Some help can be gained from Primrose’s test using a Maddox rod, but at best the conclusions are unreliable.

Case Report

A retired farm worker, aged 76 years, was referred because of a dense vascularized leucoma on the left cornea, following repeated ulceration during the previous eighteen months. Vision had been unimpaired before the ulceration and the eye had been quiet for some six months, but the vision now was hand movements at 1 metre.

The right eye had a clear cornea and a dense white cataract. There was a history of blindness in the eye following a blow from a branch sustained when the patient had been repairing hedges some thirty years previously. Right vision was perception of light only.

Slit-lamp examination of the right eye showed a normal cornea and anterior segment, apart from the cataract. The left eye showed a heavily vascularized central corneal scar. There was total opacity in the centre and there was not enough clear cornea to consider a rotational graft. All layers were involved and there was no discernible change of thickness. The anterior chamber seemed normal, as did the pupil movements when viewed through the clearer limbal regions. The tension in both eyes was normal, as was the corneal sensation. Projection of light in the left eye was accurate and brisk in all fields.

The patient was advised to have an autotransplant after preliminary cautery peritomy had been done to control the vascularization.

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The operation was performed under general anaesthesia on December 14, 1962, using a 5 mm. Franceschetti trephine with depth rings engraved. The "grafts" were secured with six virgin silk sutures and both reinforced with an Ainslie splint. The right lens was observed to be partly dislocated and there was vitreous in the anterior chamber. The left lens showed moderate opacities, probably not much denser than one would normally expect to see in a patient of this age. Cortisone acetate 0.5 ml. was injected in Tenon's capsule on each side at the end of the operation. Convalescence was complicated by retention of urine with overflow which was treated with an indwelling catheter.

The Ainslie splints were removed on the tenth day, and the virgin silk sutures from the left graft three weeks after operation (Fig. 1). The right graft was seen to be ectatic two months after operation, and the right eye watered, though there was no irritation (Fig. 2). The intra-ocular pressure in the right eye was raised, but that of the left was normal at that time.

The patient subsequently had a left cataract extraction with an uneventful recovery. A view of the fundus showed that he had a senile macular lesion. His vision in March, 1963, when the eye had settled completely, was 6/60 with a +9.0/-3.0 at 90. He obtained N 8 using a Keeler A 16 giving 8 X magnification. He is no longer dependent upon others for getting about and can read his own correspondence and the newspaper (Fig. 3).
Summary

A case of autotransplant is described with satisfactory surgical results. The test of "projection of light" is of the greatest importance in helping to decide the need for surgery. The ultimate functional result of a successful corneal graft depends upon clarity of the graft and absence of concomitant disease in other parts of the eye.