

Razor blade section in cataract surgery

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There are many techniques of cataract extraction and many types of cataract knives have been devised to facilitate an ideal section. Ultrasharp diamond knives were introduced by Durham and Luntz (1968). Sharpness is essential whether the von Graefe knife, the keratome, or corneal scissors are used, and for this reason disposable cataract knives, keratomes, and Bard Parker blades are widely used.

This article describes the use of an ordinary razor blade (preferably non-stainless); this is not only very sharp and easy to sterilize, but is cheap enough to be disposable, and readily available throughout the world. Two separate sections can be cut with each half of the blade.

Surgical procedure

ANAESTHESIA

Local anaesthesia, using deep sedation, is suitable for most cases.

Upper and lower lid sutures, and a superior rectus bridle suture, are inserted, and the usual limbal-based conjunctival flap is made and cleaned, as far as the sclero-corneal junction, with a pair of conjunctival scissors. Minute bleeding points can be arrested by a thermocautery or the tip of a squint hook heated over a spirit lamp.

TECHNIQUE

The section is made solely with a fragment of razor blade held in a special holder or in a pair of fine-toothed mosquito forceps.

To make the razor blade fragment, the blade is first broken in half, and a triangular piece with a fine point and one sharp edge is broken off from one half of the blade as shown in Fig. 1.

First a fine groove is made with the *sharp* edge of the blade just beyond the sclero-corneal junction from 9 to 3 o'clock marking the line of the section. Then at the 12 o'clock position, a cut is made right through into the anterior chamber with the sharp edge of the blade. Next, the tip of the blade is inserted into the anterior chamber through the already cut wound by placing the sharp edge to one side. Then, by a gentle to-and-fro movement on that side, the cornea is sliced off up to the end of the groove previously marked. The sharp edge of the blade is turned towards the other side, and starting from the 12 o'clock position again, the procedure is repeated to complete the section in the other direction to the end of the already marked groove. The section is thus completed throughout with the razor blade fragment.

The sutures are inserted, iridectomy is performed, and the cataract is extracted (Fig. 2).

If the surgeon prefers to put pre-placed sutures, they can be placed at 10 and 2 o'clock after the preliminary groove is made, and between the two lips. Each suture is pulled well apart into a loop with the help of a lens hook and made safe from accidental cutting while the section is being cut.

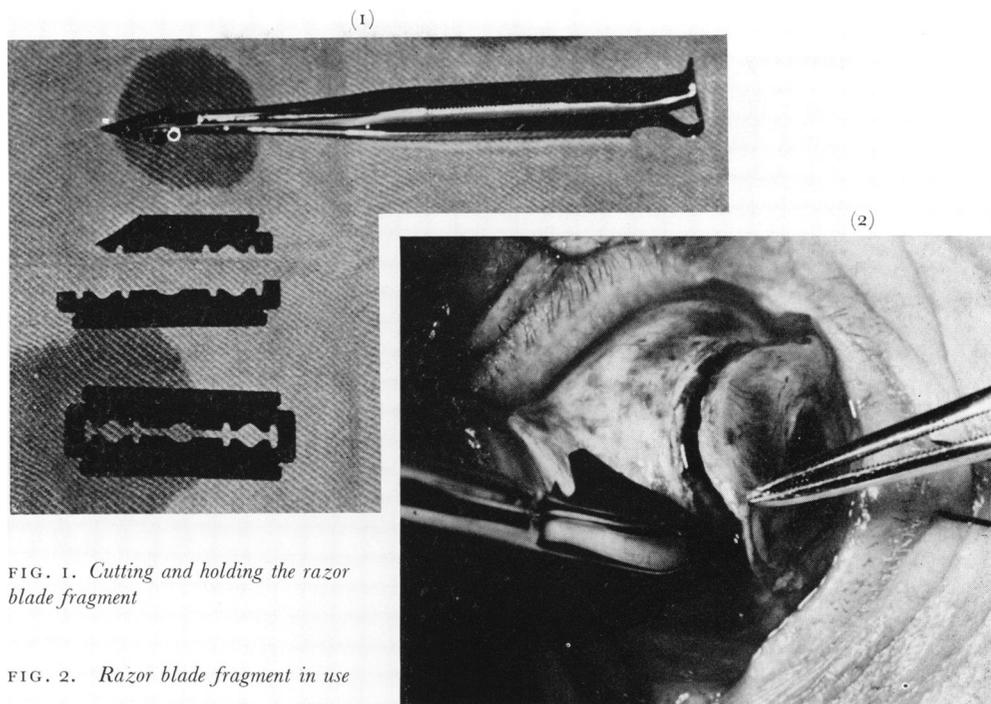


FIG. 1. Cutting and holding the razor blade fragment

FIG. 2. Razor blade fragment in use

Complications

DURING OPERATION

Accidental cutting of the root of the iris occurred in two cases. This happened only when the section was almost 1 mm. away from the corneo-scleral junction. In these two cases, broad iridectomy was performed before removing the cataract. No other complications were noted during the operation.

POSTOPERATIVE COMPLICATIONS

Only thirteen cases of postoperative complication were encountered in 100 patients (Table).

Table *Thirteen postoperative complications in 100 cases*

<i>Complication</i>	<i>Degree</i>	<i>No. of cases</i>
Hyphaema	Diffuse	5
	Large	Nil
Striate keratitis	Slight	4
	Severe	Nil
Shallow anterior chamber	After 1 to 7 days	2
	After 7 days	Nil
Iris prolapse	Immediate	Nil
	Late	Nil
Vitreous haemorrhage	Slight	Nil
	Moderate	1 (cataract with secondary glaucoma)
	Severe	Nil
Choroidal haemorrhage	Resolved within 7 days	1
	After 7 days	Nil

Summary

A razor blade fragment can be used safely and as a routine for making the section in cataract surgery.

This simple method permits a perfect section. Apart from being cheap enough to be disposable the ordinary razor blade is easily available everywhere and is very sharp.

The visual results obtained after aphakic correction show that 60 per cent. of cases require no cylindrical correction.

References

DURHAM, D. G., and LUNTZ, M. H. (1968) *Brit. J. Ophthalm.*, **52**, 206