

Evaluation of Dexon Suture in Cataract Surgery

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Along with other surgeons of our country (5), we have had experience with a synthetic, absorbable material, *Dexon polyglycolic sutures, in intraocular surgery (1-3). Polyglycolic acid suture is a homopolymer for glycolic acid. The material is well tolerated by ocular tissues, handles well, maintains knots securely, and absorbs slowly and uniformly. The manufacturer of Dexon added gauge 7-0 ophthalmic sutures to the product line. The 7-0 material has a diameter between 0.051 mm. and 0.076 mm. and is swaged to a fine reverse cutting 3/8 circle needle. In this study, the new finer-gauge sutures were evaluated for use in cataract surgery.

* Dexon is a registered trademark of Davis & Geck, American Cyanamid Company, Pearl Rives, N.Y. 10965.

MATERIALS AND METHODS

28 male and 22 female patients whose ages ranged from 44 to 81 years, underwent intraocular cataract extractions. The same surgical procedure was used in all cases: A fornix — based flap; seven interrupted, postplaced Dexon 7-0 sutures in corneal tissue: and two interrupted, 6-0 silk sutures in the conjunctival flap. 41 were peripheral iridectomies and 9 were sector iridectomies.

Conforming with our usual routine, treatment consisted of atropine sulfate 1% once daily, postoperatively for four weeks.

Also administered dexamethasone drops six times daily after the third post operative day for four weeks. During the healing period, operated eyes were observed for signs of unusual reaction to the suture material and for the persistence of the sutures in the corneal tissue (figs. 1-4).

RESULTS

Postoperative courses were uneventful. All were eyes were healed by six to eight weeks. The sutures remained visible for an average of 6 weeks, with a range of four to six weeks.

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Fig. 1 — Case 6 — Reaction at the first week: Mild redness and slight elevation.

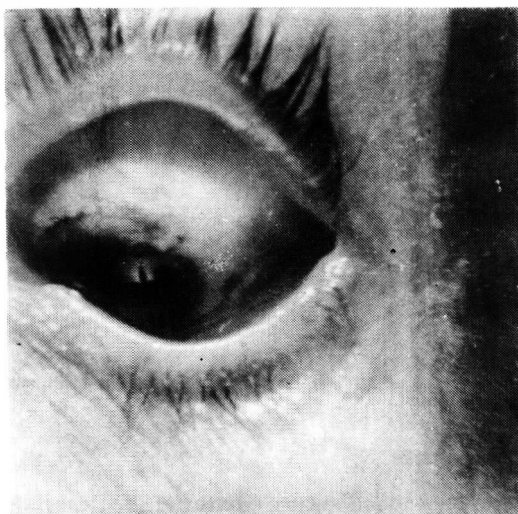


Fig. 2 — Case 6 — Second week: Moderate redness and no elevation.



Fig. 3 — Case 6 — Reaction at 3rd week: Minimal reaction. Good healing.

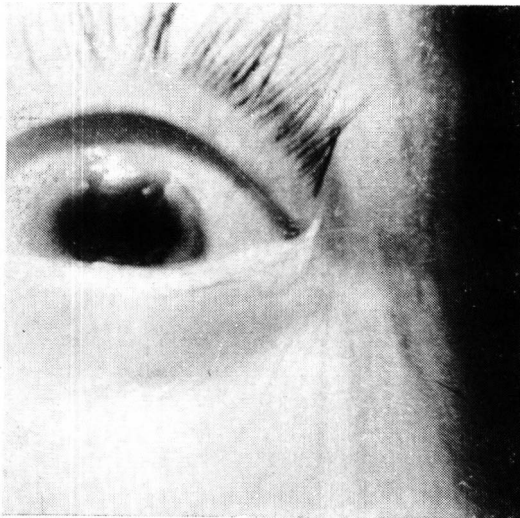


Fig. 4 — Case 10 — First week: Moderate redness with slight edema.

DISCUSSION

The ideal suture material is described by Dunphy and Jackson (4) as nonprotein, of monofilament design, with high tensile strength, no loss of tensile strength after

tissue implantation, little knot slippage, and gradual absorption over a 30-to-60 day interval, Dexon 7-0 has sufficient tensile strength to bring it close to the ideal absorbable suture for cataract surgery, as a nonprotein, therefore, it is not likely to cause antigenic reactions. The sutures are braided and, thus, not consistent with Dunphy and Jackson's theoretical ideal. However, the braided material did not fray in any case.

No knot slippage was encountered in this serie. No square knots have untied at any time. The braiding appears to be partly responsible for this.

Absorption time of Dexon sutures has been rather uniform, with a visible minimal persistence of four weeks and maximum of six weeks, probably with a true maximum of seven weeks (5). Tissue reaction during the first three to four days after surgery appears to be the same as when silk or catgut are used.

Reaction at three weeks was minimal (fig. 3). The fact that it is no longer necessary to remove corneoscleral sutures has been gratifying and, itself, appears to justify the change to buried sutures for those who prefer absorbable nonantigenic suture material of predictable duration. Removal of conjunctival sutures at three weeks is never a problem since most of them slough out spontaneously. Our experience using 7-0 Dexon ophthalmic sutures supports the above mentioned and indicates that the finer-gauge material is well suited for use in intraocular surgery.

SUMMARY

Gauge 7-0 polyglycolic acid sutures (Dexon) were used in 50 cataract extractions. The suture material handled well, had no tendency to knot slippage, and was generally uniform in absorbing by about six to eight weeks. No side effects occurred due to the suture material.

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