
IS SURGERY FOR PROLIFERATIVE VITREORETINOPATHY JUSTIFIABLE?

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SUMMARY

Surgery for proliferative vitreoretinopathy (PVR) may require prolonged procedures often with limited improvement in visual function. Forty-seven consecutive patients who had PVR surgery in one eye had a case note review to assess anatomical re-attachment rate and improvement in visual acuity. All patients had at least 3 clock-hours of grade C PVR membrane. Surgery comprised vitrectomy and membrane peel in all cases. There was a mean follow-up period of 9 months (range 3–23 months). Thirty-two eyes (68%) had an attached retina with the mean visual acuity being 0.089 (where 6/60 = 0.10). A mean of 2.15 PVR operations were performed per eye. Seventeen patients chosen at random were contacted by telephone and standardised questions were asked regarding their surgery. Eleven (65%) patients stated that, with the benefit of hindsight, they would still have had surgery and 8 (47%) patients stated that the peripheral vision gained was of benefit.

Repair of rhegmatogenous retinal detachment is successful in approximately 90% of cases. The most common reason for eventual failure of surgery is the development of proliferative vitreoretinopathy, accounting for the failure of 7–10% of primary repairs and an increased proportion of secondary procedures.^{1–3} Proliferative vitreoretinopathy membrane peeling procedures are time-consuming, resource-intensive, often require extensive periods of post-operative posturing, and raise the question as to whether they are worth the effort.

PATIENTS AND METHODS

A case note review was undertaken of 47 consecutive patients having surgery for proliferative vitreoretinopathy (PVR) on one eye. Information regarding the grade of PVR, type of surgery, number of surgical procedures, anatomical success, final visual acuity and presence of post-operative hypotony was documented. All patients had at

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least 3 clock-hours of grade C PVR membrane either anterior, posterior or combined. Grade C PVR is defined as full-thickness rigid retinal folds.^{5,6}

All operations were performed by one surgeon. All patients had a vitrectomy with membrane peel. Twenty-five patients (53%) had an intracavity infusion of 7.5 mg/litre of daunorubicin for 10 minutes.^{7,8} Twenty-one patients (45%) had internal tamponade with silicone oil, 16 (34%) underwent lensectomy and 28 (60%) had external tamponade usually with a broad inferior circumferential explant. The mean patient follow-up was 9 months with a range of 3–23 months.

Seventeen patients were selected at random and contacted by telephone by an independent observer. Patient satisfaction⁹ was determined by asking three questions regarding the surgery:

1. With the benefit of hindsight, would you still have had the surgery?
2. Was the change in vision following surgery of any benefit to you?
3. How well was the prognosis and post-operative management explained to you prior to surgery?

RESULTS

Thirty-two eyes (68%) had an attached retina at the time of their last follow-up visit. Twenty-one (45%) patients had a re-attached retina after one surgical procedure. A mean of 2.15 surgical procedures were performed per eye. The mean corrected decimal visual acuity following surgery was 0.089 (6/60 = 0.10). Fig. 1 demonstrates the change in visual acuity before and after PVR surgery. Twelve (26%) eyes were hypotonous and 10 (22%) eyes still had oil *in situ* during the follow-up period.

Eleven (65%) patients interviewed by telephone stated that, with the benefit of hindsight, they would have the surgery performed again. Eight patients (47%) stated that the peripheral vision they gained was of benefit; however, 3 (18%) felt the vision from the operated eye confused the vision from the unoperated eye. All patients stated that the prognosis and post-operative management were adequately explained to them prior to surgery but 10

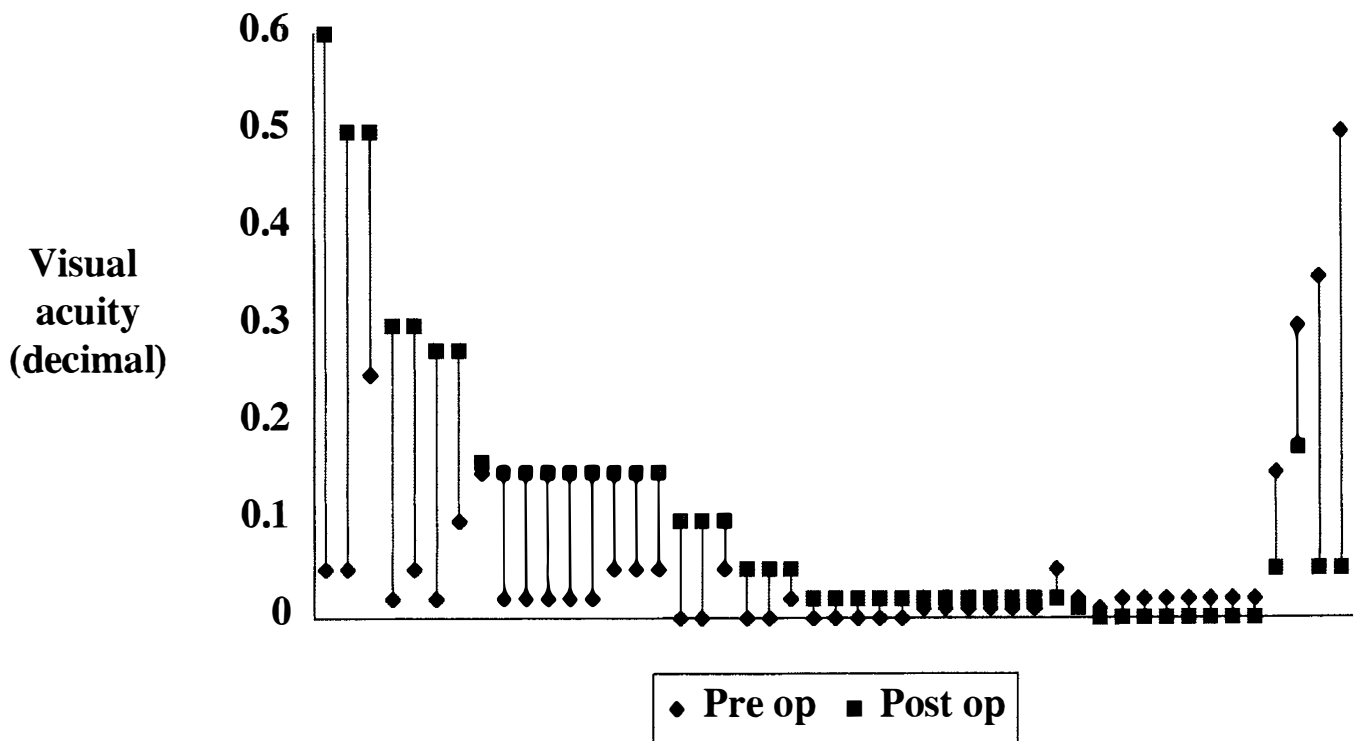


Fig. 1. Comparison of corrected decimal visual acuity before and after vitreoretinal surgery for proliferative vitreoretinopathy.

patients mentioned the difficulties they experienced with post-operative posturing.

CONCLUSIONS

Although central visual acuity was poor following the extensive surgery required to obtain anatomical success in advanced PVR, preservation of the visual field was achieved in many patients. The patient satisfaction survey suggested that there was an overall benefit to the patients following PVR surgery. However, this result was obtained at the cost of many hours of surgical time and diligent posturing by the patient, with the majority of patients requiring more than one PVR procedure.

A recent study performed in Southampton¹⁰ investigated patient satisfaction following 149 vitreoretinal surgical procedures. Of the 123 patients who responded, 116 (94%) stated that their operation had been worth while and 70 (60%) patients felt that their vision had improved following surgery. These figures compare with a 65% patient satisfaction rate and 47% improvement in vision rate in our study. Only 16 of the 149 vitreoretinal surgical procedures in the Southampton study required membrane peeling. All patients in our study required vitrectomy and membrane peel for grade C PVR. Our study represents those patients with the most guarded prognosis for visual rehabilitation following vitreoretinal surgery.

This study shows that this form of surgery, although resource-intensive and time-consuming, may produce moderate levels of patient satisfaction with its results. Provided surgical expertise and resources are available, this form of treatment should be offered to patients in whom there is a reasonable chance of improved visual function. A detailed explanation of the type of surgery, post-oper-

ative management and the overall prognosis should be given to the patient in all cases and the decision to proceed with surgery made by a well-informed patient.

Key words: Daunorubicin, Patient satisfaction, Retinal detachment, Silicone oils, Vitrectomy.

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