Trabeculectomy in Blacks: A Two-Year Follow-Up

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SUMMARY

Fifty trabeculectomies were performed in 46 black patients for control of intraocular pressure in chronic open angle glaucoma. Forty-two eyes (84%) were controlled at the end of a two-year follow-up period. Thirty-eight (76%) required no medication for control while four eyes (8%) required antiglaucomatous medication for adequate control of intraocular pressure.

INTRODUCTION

Comparatively poor results with filtration surgery have been reported by several authors in black patients previously. We reviewed the charts of 50 black patients who underwent trabeculectomy in an effort to control chronic open angle glaucoma. Minimal follow-up time when the chart was reviewed was two years. The purpose of this paper is to report on the findings of this review.

MATERIALS AND METHODS

The data for this study were obtained from Medical Records at the Medical College of Virginia Hospital covering a nine-month period from January through September of 1974. Adequate information was available on 46 black patients who underwent 50 trabeculectomies. Approximately 10% of the patient population seen in the Eye Clinic at the Medical College of Virginia is white. Only two trabeculectomies were performed on white patients during this period of time and they have been specifically excluded from this study in order to better evaluate the results of this procedure on black patients.

Each patient was evaluated with multiple applanation tonometers, carefully drawn cup/disc ratios, Goldmann perimetric visual fields, and gonioscopy. Those patients selected as surgical candidates were ones who demonstrated enlarging cup/disc ratios and/or deteriorating visual fields while taking maximum tolerated medical therapy. Unreliability in taking prescribed medication was also considered an indication for surgical intervention. All surgery was performed by a third-year resident under the supervision of an attending ophthalmologist. The technique was uniform in all cases and is essentially a modification of the procedure first described by Cairns in 1968.

Patients who underwent combined lens extraction and trabeculectomy were specifically excluded from this study as were aphakic patients who underwent trabeculectomy.

Each patient was admitted to the hospital on the day prior to surgery and given 40 mg of Prednisone by mouth on the day of admission and on the morning of surgery. At the close of

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the procedure 1/2 cc of Decadron solution was injected subconjunctivally. On the day following surgery patients were discharged from the hospital on a regimen of FML drops every two hours while awake, Scopolamine 1/4% drops b.i.d. and 40 mg of Prednisone a day orally. The dosage of topical and oral medication was tapered postoperatively in accordance with the amount of activity observed in the anterior chamber and the condition of the bleb. As a general rule, most patients were taking only topical medication by the end of two weeks and were taking no medication at all by the end of six weeks.

SURGICAL RESULTS

Fifty trabeculectomies were performed in 46 black patients who were judged in need of filtering surgery. The age range was 40 years to 78 years with an average of 58.5 years. Follow-up time ranged from 24 to 33 months for this group of patients. There were 32 men and 14 women; as stated previously all patients were black. A successful result was achieved if the postoperative intraocular pressure measured by applanation tonometry was equal to or less than 21 mm Hg whether antiglaucomatous medications were required or not. Using this criterion, 42 eyes (84%) were judged controlled at the time of the review. Eight eyes (16%) were considered failures. The average postoperative intraocular pressures were 14.2 mm Hg with a range of 10 to 20 mm Hg. Thirty-eight (76%) required no medication for adequate control of intraocular pressures while four (8%) required some antiglaucomatous medication in order to maintain intraocular pressure in an acceptable range. Thirty-seven eyes (74%) experienced no change in visual acuity after the procedure. Eight eyes (16%) lost one line of visual acuity while five eyes (10%) lost two or more lines of visual acuity. Three eyes (6%) required surgical lens extraction because of the development of cataractous changes in the lens following trabeculectomy.

Other than the complication of cataract formation mentioned above there were no significant complications as a result of the procedure. One patient had a small (10%) hyphema on the first postoperative day which cleared spontaneously. Two patients had persistent flat anterior chambers and both had gaping wounds in the conjunctiva. One wound healed with the application of a tight patch while the other required resuturing.

COMMENT

Since the vast majority of the clinic population at the Medical College of Virginia is black, this seemed an ideal population group in which to review the results of filtration surgery in blacks. The success ratios of filtration surgery in blacks is generally believed to be poorer than in whites. However, the number of studies reporting the results of filtering surgery in blacks is certainly limited.1,3 To our knowledge only three other reports are published wherein trabeculectomy was performed exclusively in a black glaucoma population.5-7 Our results are similar to those reported recently by Freedman, et al8 in a black population at Kings County Hospital, Brooklyn, New York. A comparison of results is shown in Table 1. Those authors made no statement concerning the early postoperative medical regimen for their patients. It may be that the high dose, short-term steroid therapy is of significant effect in this population. A randomized clinical trial is now underway to determine this point. We believe that the relatively favorable success rate which we report is due to three factors:

1. The relatively large block (1 mm by 4 mm) of tissue which is excised at the time of surgery.
2. The very loose approximation of the scleral flap at the close of the procedure.
3. The postoperative medical regimen of high dose, short-term steroid therapy.

The lower rate of complications with this type of surgery compared to other types of filtering procedures has been well documented in the literature and is obviously desirable.6 Our experience suggests that one may not expect any increase in the rate of complications solely because the patient is black. Our earlier report on a somewhat different series of patients which included whites indicated a 92% success rate.6 It now appears that figure is somewhat optimistic when only black patients are considered. However, a success rate of 84% at the end of a two-year follow-up period certainly is significant.

It has been stated by other authors that trabeculectomy is the procedure of choice in the treatment of chronic open angle glaucoma.3 Our results would certainly substantiate that
position and would lead us to be somewhat more optimistic about the results concerning black patients than we have been in the past.

REFERENCES


BAYLOR INTERNATIONAL OPHTHALMOLOGICAL CONGRESS

An International Ophthalmological Congress will be held February 22-25, 1978, in Houston, Texas, in connection with the inaugural ceremonies for the Cullen Eye Institute of the Neurosensory Center at the Baylor College of Medicine.

The important recent advances in clinical ophthalmology and visual research will be presented by a group of distinguished speakers. Among leading participants will be: Richard D. Binkhorst, Frederick C. Blodi, Benjamin Boyd, Gerard Crock, John Dowling, Donald Gass, Morton Goldberg, Alan Laties, Richard Lolly, Enrique Malbran, A. Edward Maumenee, Ed Norton, Arnall Patz, Charles Schepens, Robert Shaffer, Bradley Straatsma, Richard Young, Lorenz Zimmerman, as well as the Faculty of the Baylor Department of Ophthalmology.

Attendance will probably be limited to 500 registrants. For further information and preliminary registration, please contact: The Department of Ophthalmology, Baylor College of Medicine, 1200 Moursund, Houston, Texas 77030.