Retinal detachment in black South Africans

A. L. Peters

Rhegmatogenous retinal detachments seen in black patients attending King Edward VIII Hospital Ophthalmology Clinic over a 5-year period from January 1987 to December 1991 were reviewed. Penetrating trauma and diabetic retinopathy were excluded. There were 114 detachments in 112 patients, which gave incidence of 0,46/100 000 of the population served per annum. This confirms the low incidence of this disorder found in black patients in other series. Patients were comparatively young (37,5% less than 30 years of age), men outnumbered women 2:1, and the incidence of blunt trauma was high (29,8%). Over one-third (36,6%) presented with a blind or poorly sighted opposite eye. Late presentation was common. Large posterior breaks occurred in 15,7% of detachments with severe proliferative vitreoretinopathy in 33,3%. These last characteristics accounted for the use of vitrectomy with tamponade as a primary surgical procedure in 32,5% of cases and contributed to the relatively low success rate of reattachment (72,8%). Some of the findings may be influenced by social disadvantage, but the reason for the low incidence of retinal detachment in black patients is not known. A stronger adherence of the retina to the retinal pigment epithelium in black patients is postulated.

S Afr Med J 1995; **85:** 158-159.

Rhegmatogenous retinal detachment occurs when there is separation of the neurosensory retina from the retinal pigment epithelium with accumulation of subretinal fluid via a retinal break.

Predisposing factors include peripheral retinal degenerations, myopia, aphakia and trauma. Delay in presentation increases the difficulty in achieving adequate surgical correction, especially when proliferative vitreoretinopathy develops (i.e. membrane proliferation over the retinal and vitreal surfaces).

The literature on retinal detachment in black patients is not large but shows, among other differences, a much lower incidence of detachment in blacks than whites and a high incidence of associated trauma. Black patients are also younger and men predominate.[1-5]

Department of Ophthalmology, University of Natal and King Edward VIII Hospital, Durban

A. L. Peters, M.B. CH.B, M.MED. (OPHTH.)

Approximately 31 000 black patients present to the Ophthalmology Clinic at King Edward VIII Hospital each year. These patients are drawn from a population of approximately 5 million mainly Zulu people in KwaZulu/Natal. Those presenting with retinal detachment were evaluated as a distinct group.

The particular findings may, because of genetic differences, have a bearing on the pathogenesis and development of rhegmatogenous retinal detachment. They also point to primary health care deficiencies where early advice and possible prophylaxis could prevent blindness.

Patients and methods

The data on 112 consecutive black patients who were treated for rhegmatogenous retinal detachment at King Edward VIII Hospital over a period of 5 years (January 1987 to December 1991) were reviewed. One hundred and fourteen eyes were affected. Patients with diabetic retinopathy or penetrating injuries were excluded.

In the history, special note was taken of the patients' sex and age, the time lapse before presentation and any history of blunt trauma.

On examination, note was taken of the visual acuity in both eyes, the presence of myopia greater than 6 dioptres, aphakia or pseudophakia and any evidence of complications, the size, type and location of breaks and the presence and classification of proliferative vitreoretinopathy. No note was taken of peripheral degenerations, because of inadequate recording of these in some cases.

Surgery was performed by several surgeons at King Edward VIII Hospital training unit. Standard techniques such as localised explant or circling elements were used where possible. Vitrectomy was performed with internal tamponade of either an air/gas mixture (sulphurhexafluoride) or silicone oil, where indicated, e.g. when there was severe proliferative vitreoretinopathy or large posterior breaks.

Results

There were 75 men and 37 women; this gave a ratio of approximately 2:1. Men were also younger, with an average age of 37 years as opposed to 46 years for women. Of the total group, 42 patients were under 30 years of age (37,5%) and 64 (57,1%) under 40 years; the average age of the whole group was 40 years (Table I). Seventy-eight patients (69,6%) presented more than 1 month after onset of symptoms. The opposite eye of 41 patients (36,6%) had either previously been enucleated or had very poor visual acuity (less than 6/60 on the Snellen chart). Myopia greater than 6 dioptres was found in 12 eyes (10,5%). Eleven eyes (9,6%) were aphakic or pseudophakic and a history of blunt trauma was obtained for 34 eyes (29,8%) (Table II). The types of break documented are shown in Table III. Large posterior tears commonly occurred in association with trauma. In general, breaks tended to be large and multiple. Proliferative vitreoretinopathy of grade C1 or worse (former classification)[6] was noted in 38 eyes (33,3%) (Table II).

Table I. Age and sex

	No.	Average age (yrs)
Men	75	37
Women	37	46
Both	112	40

42 patients (37,5%) were aged less than 30 years.

Table II. Associated factors

	No.	%
Trauma*	34	29,8
Myopia > 6 dioptres*	12	10,5
Aphakia/pseudophakia*	11	9,6
Severe PVR*	38	33,3
>1 month presentation delay†	78	69,6
Blind opposite eye†	41	36,6

* Eyes.
† Patients.

Table III. Types of retinal break

	No. of eyes	%
Round	33	28,9
Horseshoe	32	28,0
Dialysis	10	8,8
Large posterior	18	15,7
Giant	2	1,8

Some eyes had more than one type of break and in some eyes no break was found.

Surgical results

Vitrectomy with tamponade as a primary procedure was required in 37 cases (32,5%). This entailed removal of the vitreous gel and its replacement with a long-acting gas mixture or silicone oil. All other patients underwent explant surgery with or without subretinal fluid drainage. Anatomical reattachment was achieved initially in 83 cases (72,8%). Most patients did not return for follow-up, and only 30 patients (26,7%) attended for 3 months or more.

Discussion

The patients in this series were relatively young (average age 40 years) and the incidence of blunt trauma was high (29,8%). Weiss and Tasman's series[5] of white patients had an incidence of blunt trauma of 12% and an average age of 58 years. Many patients in this series presented late and 41 (36,6%) presented only when vision deteriorated or was lost in the remaining good eye. This latter fact is interesting and not previously reported. Retinal detachment is a bilateral disease in about 19% of cases[7] and this may account for the loss of some of these eyes. Social disadvantage and ignorance together with a fatalistic approach may be contributory factors in the large number of patients who sought help only when the second eye was affected. Many patients live in rural areas and have long distances to travel. Improvement in primary health care and education should reduce the number of patients presenting only after involvement of the remaining eye. It should also reduce the delay in presentation. Aphakia and high myopia were not especially significant causative factors in the patients in this study and the significance of peripheral degeneration could not be assessed.

Breaks were large and multiple, especially those associated with trauma, although dialyses (8,8%) were not as common as expected in view of the high incidence of trauma.

Proliferative vitreoretinopathy, when severe, was almost always associated with delay in presentation. These latter two factors probably influenced the initial anatomical reattachment rate of 72,8%. Traumatic detachment in blacks has been noted as difficult to rectify.[5]

The overall incidence of 0,46/ 100 000 per year of rhegmatogenous retinal detachment in this group is low compared with the 10/100 000 per year for Western societies, and confirms other reports.[1-5] Exclusion of blunt trauma from the series lowers the incidence still further. This may be artificial as many rural patients may not present to the hospital. However, our unit almost certainly sees practically all patients with rhegmatogenous retinal detachment from the area drained by the hospital, apart from those who consult the private sector.

A stronger adherence of the retina to the retinal pigment epithelium in black people, as postulated by Foos *et al.*,[8] may be the reason for their lower incidence of rhegmatogenous retinal detachment.

REFERENCES

1. Staz L. Detachment of the retina. *S Afr Med J* 1949; **23:** 683-687.
2. Brown PR, Thomas RP. The low incidence of primary retinal detachment in the Negro. *Am J Ophthalmol* 1965; **60:** 109-110.
3. Av-Shalom A, Berson D, Gombos GM, Michaelson IC, Zauberman H. Some comments on the incidence of idiopathic retinal detachments among Africans. *Am J Ophthalmol* 1967; **64:** 384-386.
4. Douglas WHG. Retinal detachment in the Negro of Southern Africa. *S Afr Arch Ophthalmol* 1973; **1:** 79-87.
5. Weiss H, Tasman WS. Rhegmatogenous retinal detachment in blacks. *Am Ophthalmol* 1978; **10:** 799-806.
6. The Retina Society Terminology Committee. The classification of retinal detachment with proliferative vitreoretinopathy. *Ophthalmology* 1983; **90:** 121-125.
7. Schepens CL, Marden D. Data on the natural history of retinal detachment. *Am J Ophthalmol* 1966; **61:** 213-226.
8. Foos RY, Simons KB, Wheeler NC. Comparison of lesions predisposing to rhegmatogenous retinal detachment by race of subjects. *Am J Ophthalmol* 1983; **96:** 644-649.

Accepted 2 Mar 1994.
The above data were presented as a poster at the XVIIIth Meeting of the Club Jules Gonin, Vienna, 6-10 September 1992.