

Management of Rhegmatogenous Retinal Detachment in Bahrain

Nabil Shirawi* and Mrs. Snelling**

ABSTRACT

22 patients (23 eyes) were admitted to the eye ward with rhegmatogenous retinal detachment and operated accordingly. In 18 patients (19 eyes) the retina was successfully re-attached and in 5 patients, the operation was a failure due to either hazy media, or the impossibility of detecting the tear, due to macular hole, to missed or new development of tears post operatively and due to fixed folds and vitreo-retinal changes in long standing total detachments. The visual results were relatively good considering that in 17 patients the macula was involved.

Rhegmatogenous Retinal Detachment means a separation of retinal layers between the retinal pigment epithelium and the neuroretina caused by a break, hole or tear due to trauma, myopia, vitreous traction, aphakia or unknown aetiology.

The retinal detachment operation has become very advanced in recent years, but nobody can claim that it is without any complications and failures. Even after perfect reposition of the retina, the vision might not be good due to irreparable damage to the photo-receptions and the pigment epithelium. It is often disappointing to see an anatomically well attached retina, but a poor visual acuity. It is therefore of utmost importance to detect retinal degenerations or holes, which are prone to cause retinal detachment, early and seal them by prophylactic measures like cryopexy or light coagulation and when the retina is already detached, to intervene surgically before the macula undergoes permanent damage.

METHOD

This is a statistical and prognostic survey of admitted rhegmatogenous retinal detachment patients during the period May 1981 — December 1982. Totally 37 cases were admitted; out of these 15 patients either refused surgery or went abroad for treatment

(these 15 are excluded from the study). The remaining 22 patients (23 eyes, one patient had bilateral retinal detachment) underwent surgery in Salmaniya Medical Centre.

The age range was 14 to 79 years at the time of surgery. The sex distribution showed a prevalence for males (19 males and 3 females). The nature of complaints in almost all patients were diminished vision or observing a veil in front of the eye. The duration of complaints until they sought ophthalmic help was in 6 patients less than a week, in 6 patients between one week and one month and in 10 patients more than one month.

Out of the 23 eyes the predisposing factors were in 11 eyes myopia, in 8 eyes hypermetropia and in 4 eyes emmetropia. 8 eyes were aphakic and cataract extraction was done in 2 three months ago, in 3 between three months and one year ago and in 3 more than one year ago. 5 patients gave a history of ocular trauma.

Associated ocular abnormalities were seen in 10 patients, 4 had an early lens sclerosis, 4 had corneal leucoma, 1 eye was amblyopic and 1 eye had a subluxated lens. All patients had a thorough pre-operative evaluation and examination with the binocular indirect ophthalmoscope, with the three-mirror Goldmann contact lens, and the fundus was also drawn on the retinal detachment chart.

In two patients out of 23, a tear could not be detected due to corneal scarring and early cataract. 2 had dialysis in the lower quadrant. In 10 patients a single tear and in 9 patients multiple breaks were seen. Almost all patients had vitreous syneresis and degeneration, and 5 eyes showed signs of previous haemorrhages. In 8 patients the detachment was total or subtotal. In 10, two quadrants and in 5 only one quadrant were detached. In 15 patients the retinal tear was in the upper quadrant and in 4 in the lower quadrant. Macular oedema or macular detachment were seen in 17 patients. 2 eyes had macular hole and only in 4 patients was the macula not involve.

* Consultant Ophthalmic Surgeon, ** Registrar

Dept. of Ophthalmology,
Salmaniya Medical Centre,
State of Bahrain.

The best corrected visual acuity preoperatively was in 11 patients hand-movement. 9 eyes had a vision between the finger counting and 2/60, and only 3 patients had 6/60, 6/36 and 6/24. This bad preoperative vision is explained by the frequent involvement of the macula.

Most of the patients had one day preoperative bed-rest with appropriate posturing to reduce the subretinal fluid to make the detection of breaks possible and to facilitate better cryoreaction and localization of the buckle. All patients were operated upon under G.A. All patients had monitored cryopexy around the breaks. On sealing the tear in 9 patients a 360° encirclement procedure (cerclage) was performed with a silastic band of 2 - 3 mm width, which was inserted equatorially 12 - 14 mm posterior from the limbus and then fixed in each quadrant with one mattressuture. The ends of the encirclement band were closed with the Watzke sleeve. In 4 patients a cerclage was placed together with an additional localized circumferential gutter in the area of the hole and in 3 patients a combination of a cerclage and a radial buckle was inserted. 2 patients had only a localized radial and 4 patients a localized circumferential silicone plomb of either 5 x 5 mm. or 5 x 7.5 mm diameter indenting the hole. In 7 patients an additional subretinal drainage and intravitreal air tamponade was carried out. 2 patients had air only injected without drainage. 2 patients had to have a myotomy as the tear was situated directly below a rectus muscle insertion. One patient with the macular hole had only Xenon photo-coagulation under L.A. to prevent the lower detachment from increasing and to preserve the upper retina from detachment and hence lower field. In all patients the patency of the central retinal artery and the position of the buckle in relation to the break were checked immediately before suturing the conjunctiva. Post operatively the patients were treated with topical cycloplegics, steroid, antibiotics and occlusion. After three days the patient was usually mobilised when there was good reaction around the break and signs of absorption of subretinal fluid, and was discharged after 7 - 10 days.

RESULT

The anatomical reattachment of the retina is not always congruent with improvement of the vision. Out of our 23 eyes, 5 retinas could not be reattached due to either hazy media, or the impossibility of detecting the tear due to macular hole, to missed or new development of tears post operatively and due to fixed folds and vitreo-retinal changes in long standing

total detachments. In 18 patients the retina was successfully reattached. 2 of these patients needed a second operation which was successful, and 2 developed three months post-operatively a pre-retinal membrane, which is a known complication of the detachment surgery of unknown etiology. 1 patient had a pigment fall out, probably due to too intensive cryo application, and the rest of the patients (15) had post-operatively no complications and a well-reattached retina.

Obviously, the vision in the failed cases did not improve (4 had H.M.) The functional results in the 19 eyes were satisfactory, if one bears in mind that in most of these patients the macula was involved. 8 patients had a walking vision up to 3/60 and 11 patients had functional results between 6/60 and 6/18. Judging by the severity of the pathological picture with unfavourable prognosis, our results were well within the success rate of other centres. All patients except 2 who did not show up, had a follow up period of three months or more.

DISCUSSION

Each patient has to be individually evaluated for the duration and extent of the detachment and localization and the number of retinal breaks. A primary concern for the functional prognosis is the condition of the macula. Once the macula becomes detached, regardless of how quickly it is reattached, there will inevitably be some loss of central vision. 72 hours after the retina has detached, the photoreceptors undergo permanent damage, especially the cones in the macula, due to lack of nutrition. Also the older the patient the poorer the retinal vascular situation and the less favourable are the functional results. The younger the patient and the more recent the retinal detachment the better becomes the prognosis.

Retinal detachment with a tear in the upper quadrants is an ocular emergency and needs early operative intervention, because the macula is in danger of being affected due to gravity of the retinal fluid. Detachment in the lower quadrants progresses slowly and the macula involvement occurs relatively late. Posterior breaks and macular holes have usually an unfavourable prognosis. This is due to the difficult access of the sclera posterior to the equator, which makes operative procedure in this region technically difficult and more traumatic. Of course larger and multiple holes in different areas are more complicated to deal with.

The increase in the success rate of retinal detachment operations has been attributed to the improve-

ment of diagnostic procedures, the binocular indirect ophthalmoscope combined with scleral indentation and slitlamp biomicroscopy with the Goldmann three-mirror contact lens which allow scanning of the whole retina up to pars plana. Thus missing any break is a remote possibility, and direct visual monitoring of the procedure makes it easier for the surgeon to change his plans promptly to fit whichever situation arises. The use of less traumatic surgical techniques and instrumentations, better suture material and inert silastic bands and plombs with non-abuse of the delicate ocular tissue, is also extremely helpful.

It has to be stressed again that early recognition of retinal detachment is very important for the prognosis of visual function. Due to careful fundus screening especially of moderate or highly myopic patients over the same period from May 1981 until Dec. 1982, 17 patients were treated prophylactically with either cryopexy or light coagulation for lesions, which predispose to retinal detachment. None of these patients had a visual deterioration or development of retinal detachment.

CONCLUSION

We conclude that our results were within the success rate of other centres despite the unfavourable condition of the patient and associated eye diseases.

REFERENCES

1. Duke Elder S. : Diseases of the Retina, 1967, Vol. 10, 778-847.
2. Fison L. : Retinal Detachment Surgery, 1977, 15 - 32, 44 - 45, 71, 229.
3. Chignell. A. : Retinal Detachment Surgery, 1980, 6 - 14, 29, 78 - 91, 140, 145, 156 - 157.
4. Schepens Ch. : Retinal Detachment Surgery, 1983, Vol. 1, 46 - 51, 103 - 118, 497 - 542.
5. Boyd. B. : Highlights of Ophthalmology, 1983, Vol. 1 Sec. 2.
6. Miller S. : Prognostic evaluation of retinal detachment B.J.O. 1975, 59, 69.
7. Miller S. : Non-drainage of subretinal fluid B.J.O., 1975 : 59, 251.
8. Leaver P. et al. : Role of non-drainage of subretinal fluid in the re-operation for retinal detachment. B.J.O., 1975, 59, 252 — 254.
9. Huamonte F. et al. : Complicated retinal detachment and its management with pars plana vitrectomy. nB.J.O., 1977 : 61, 754 - 760
10. Percival S. et al. : Prevalance of aphakic retinal detachment. B.J.O., 1983, 67, 43 - 45.
11. O'Connor P. : Cryo surgical probing of retinal tears. American J. Ophth. 1974, 78, 411 - 414.
12. Kreissig I. : Der Gegerwartige Stand der Ablatio-chirurgie ohne punktion. Klin. Augenheilk, 1978, 173, 140 - 149.
13. Fastenberg D. et al. : The role of cellular proliferation in an experimental Model of massive pre-retinal proliferation A.J.O. 1982. 93, 565 - 572.
14. Tani P. et al. : Prognosis for central vision and anatomic reatchment with macula detached. A.J.O., 1981. 92, 611 - 619.