

END RESULTS IN RETINAL DETACHMENT SURGERY

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SINCE Gonin's publication¹ in 1929, the treatment of retinal detachments has received much attention in the literature and varying results have been reported.

In a symposium presented at the Fifty-Sixth Academy of Ophthalmology and Otolaryngology in October of 1951,² the committee classified complete reattachment of the retina for a period of not less than six months as a cure (anatomic viewpoint). As they pointed out, this is purely an arbitrary time limit, but it seems to be a fair one. Retinal reattachment does not necessarily mean visual improvement, as we will show.

A statistical survey of end results following operation in 103 consecutive cases of retinal detachment seen at the Cleveland Clinic is presented. The report of results is based on the forementioned criterion.

PREOPERATIVE FACTORS

Age. Ages of the patients showed no significant relationship to incidence although the greatest percentage of cases occurred in the fifth, sixth and seventh decades. These patients were slightly older than most of those reported in the literature and this factor may have some influence on success or failure due to vascular degeneration in older age groups.

Incidence According to Age in Years	
(103 patients)	
(Age range: 9-76)	
Age	Incidence
9 - 20	6
21 - 30	6
31 - 40	11
41 - 50	19
51 - 60	33
61 - 70	25
over 71	3

} 77 (or 74.7%)

Sex. Sixty of the patients were men (58.2 per cent) and 43 were women (41.8 per cent); the percentage difference of 16.4 seems insignificant.

Duration of Detachment. From past histories it was found that three days was the shortest duration of detachment, one year the longest (one case); the

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average was two weeks. The greatest percentage of patients (76.7 per cent) reported a duration of less than one month.

Trauma. This factor is probably much less important than is generally believed. There was no direct relationship of trauma to success or failure in these cases. Fifteen (14.5 per cent) of the patients had undergone previous eye surgery; ten (9.7 per cent) had experienced direct trauma, and eight (7.8 per cent) indirect trauma. Seventy (67.9 per cent) had no history of trauma.

Occupation. This factor appeared unrelated to incidence. Sixty-four of the patients were white-collar workers, 27 laborers, 8 farmers and 4 professional people.

Systemic Diseases. Atopic dermatitis was the only systemic disease which seemed to affect the results of the operation in this series. Only one of six operations performed upon patients who had atopic dermatitis was successful. It must be remembered that in detachment surgery we are not treating the systemic or degenerative disease.

Systemic Disease	Incidence	No. of Successful Reattachments
Hypertension	9	3
Atopic dermatitis	6	1
Hyperthyroid	1	0
Diabetes mellitus	3	1
Arthritis	1	0
Poliomyelitis	1	1
Multiple sclerosis	1	0
TOTAL	22	6

Refractive Errors. It is generally believed that myopia, especially of higher degree, has a definite relationship to the degree of success or failure of the operation. In this series in which there were 17 myopes and 19 hyperopes, this was not confirmed.

Bilateral Detachments. Generally, patients who had this condition showed a poor prognosis. They were usually seen after the second eye had become detached. Shipman³ believes that if a patient has a detachment in one eye without explainable cause, he is extremely likely to develop detachment in the other eye in three to ten years.

Eleven patients with bilateral detachment were seen; three were operated upon at the Clinic, two successfully.

Type of Detachment. Seventy-nine cases had billowy detachment; 28 of these with hole. Twenty-four cases had flat detachment; six of these with hole. Hole was found in the superior temporal quadrant in all cases except two in which it was superior nasal in location.

Visual Fields. Preoperative fields agreed with clinical findings. Post-operative fields showed no direct correlation with visual acuity obtained, at least in the early postoperative period.

Mode of Surgery

All patients were operated upon by a combination of surface coagulation and penetrating diathermy. No scleral resections were done.

Postoperative Results

Successful Reattachments. Forty-nine of the 103 patients operated upon were classified as having successful reattachments according to the criterion established by the Ophthalmology and Otolaryngology Committee.² Thirteen of the 103 were lost to follow-up and the figures presented are based on consideration of these 13 as failures. If these 13 cases were disregarded the overall figure would be increased by approximately 10 per cent.

Type of Detachment	No. of Cases	
	Successful	Percentage
Billowy	38	77.7
with hole (10 or 20.5%)		
without hole (28 or 57.2%)		
Flat	11	22.3
with hole (4 or 8.1%)		
without hole (7 or 14.2%)		

Of those cases with hole, 28.6 per cent were successful; of those cases without hole, 71.4 per cent were successful. This greater success of operations in cases of detachment without hole is in contrast to the majority of reports in the literature and is attributed to improved preoperative care which includes adequate preoperative bed rest of approximately five days to allow the retina to fall back into place and permit a more careful search for tears. Of all cases, 47.5 per cent were successful.

Visual Acuity. Visual acuity is the most important criterion of success or failure as far as the patient is concerned. Successful reattachment with decreased vision probably indicates that there has been a detachment or injury of the macula. Of the 49 patients classified as having successful reattachments 5 (10.2 per cent) had no visual improvement, 32 (65.3 per cent) had improvement, and 12 (24.5 per cent) had decreased visual acuity.

Discussion

The cases reviewed represent a group of unselected patients, who in many instances were referred for surgery even though the preoperative prognosis was not good, as in those cases of long duration or with an inadequate history of duration.

Amsler⁴ stated that 60 to 65 per cent of the operations performed upon recent and old cases could be expected to be successful. Duke-Elder⁵ estimated that 50 per cent of cases of detachment could be cured, and in favorable cases, 75 per cent. Shipman³ reported in 1950 that of 431 operations, 46.9 per cent were complete recoveries and 20.6 per cent were improved. The percentage of success is variable depending on the author, his technic and standard for successful reattachment.

Summary

One hundred and three unselected cases of patients with retinal detachment who were operated upon are reviewed and successful results reported for 47 per cent. In this series 13 patients lost to follow-up were regarded as failures. If these 13 were disregarded the percentage would be 57. A careful selection of cases would increase the percentage of successful reattachments.

In contrast to the majority of reports in the literature, operations for retinal detachment without hole were more successful than those for retinal detachment with hole. This greater success is attributed to improved preoperative care, which includes adequate bed rest.

References

1. Gonin, J.: Le traitement local du décollement rétinien. In *concilium Ophthalmologicus*. The Hague, Netherlands, Gravenhage, 1929.
2. Post, L. T.: Symposium: retinal detachment. *Tr. Am. Acad. Ophth.* 56:370 (May-June) 1952.
3. Shipman, J. S.: Some practical facts regarding retinal detachment surgery, with report of results in over 400 unselected and consecutive cases. *Am. J. Ophthalmol.* 33:847-860 (June) 1950.
4. Amsler, Marc: Operations on the Retina, chap. in Berens, Conrad, editor: *Eye and Its Diseases*. ed. 2, Philadelphia, W. B. Saunders Co., 1949, p. 950.
5. Duke-Elder, W. S.: *Textbook of Ophthalmology*. vol. 3, St. Louis, Mosby, 1941, p. 2920.