

# Retinal Detachment In Changi General Hospital: A Retrospective Study From 1997-2004

Y Chong, E Wong, D Wong

## Citation

Y Chong, E Wong, D Wong. *Retinal Detachment In Changi General Hospital: A Retrospective Study From 1997-2004*. The Internet Journal of Ophthalmology and Visual Science. 2006 Volume 5 Number 1.

## Abstract

This is a retrospective audit on retinal detachment cases seen in Changi General Hospital, Singapore. Main outcomes included anatomical reattachment after primary procedures without further intervention and the final visual acuity post operatively. The type of procedures, reasons for failure of surgery and post operative complications are also documented.

## INTRODUCTION

Retinal detachment continues to pose a challenge for practicing ophthalmologists be it in a teaching institution or community hospitals. In this study done retrospectively, we followed up on 98 patients for the period 1997-2004 with rhegmatogenous retinal detachment who presented to Changi General Hospital, a 801 bed community hospital in the eastern part of Singapore with a population of 750,000 people.

## MATERIAL AND METHODS

Patients' names were traced with computer and logbooks and their old notes were retrieved by the principal investigator. 21 data items were entered into the computer and analysis was done with the statistical package SPSS . Hospital review ethics committee approval was obtained for the study.

98 eyes from 98 patients with rhegmatogenous retinal detachment were treated in CGH during the 7 years. The department has a visiting vitreoretinal specialist from a teaching center ( SNEC) twice a week and on occasions when the specialist could not come the patient was referred to the center. These patients were not included in the study.

## RESULTS

Overall there were 64 (65.3%) males and 34 (34.7%) females with ages ranging from 15 to 81 year old (mean age 45+/-16). Racial distributions included Chinese 72.4%, Malay 21.4%, Indian 5.1% and others 1.0%.

The table enclosed showed the age distribution with peak between 45-54 years old (22.4%). 60.2% of patients

presented within one month while 26.5% of patients seek treatment between 1-3 months after the onset of symptoms. Procedures were done on 48% of right eyes and 52% of left eyes. 86.7% of patients were followed up for at least 6 months post operatively while 13.3% defaulted further treatment.

Figure 1

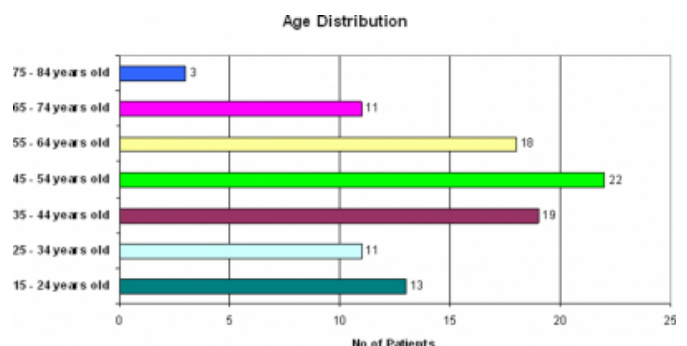


Figure 2

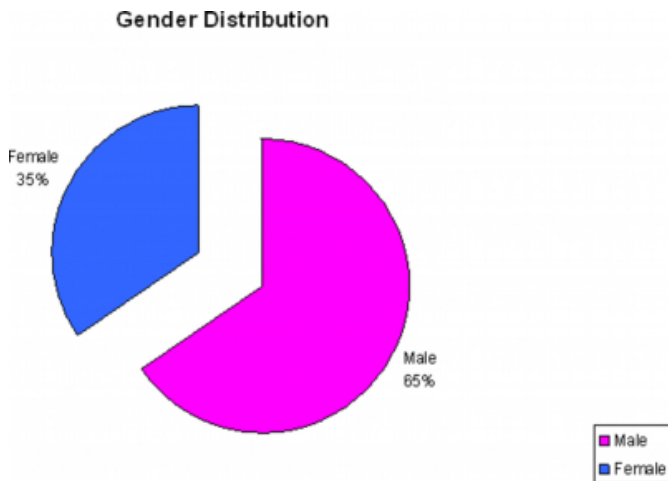


Figure 3

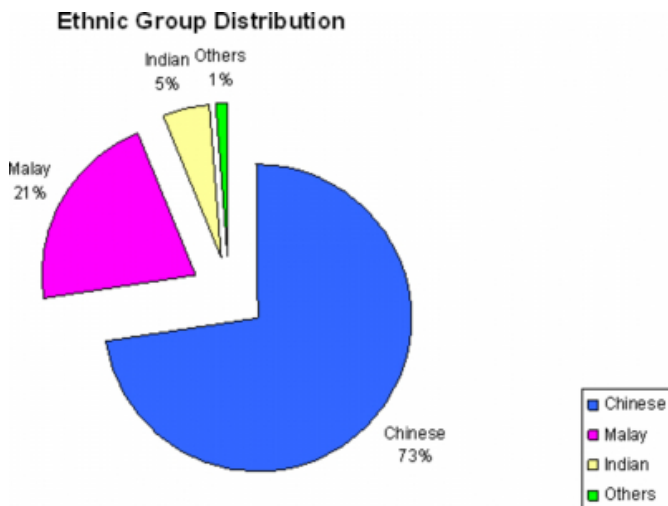
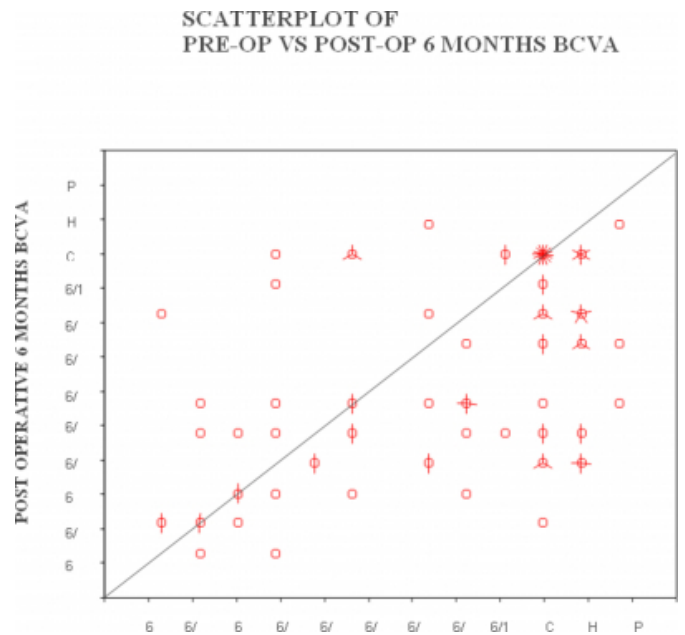


Figure 4



The types of patients seen included high myopes >-6.0 (15.3%), pseudophakic (11.2%) and aphakic patients (3.1%). Single tears were found in 56.1% of patients, multiple tears in 34.7%, macula hole in 2% and total RD in 3.1%. The tears were characterized as having a horseshoe shape 38.8%, round holes 19.4% and dialysis 3.1%.

In this study there was a high proportion of patients who presented with detached macula 78 patients (79.6%). Most patients (64.3%) were treated with the conventional method of cryotherapy to tears, scleral buckle and with subretinal fluid drainage. A combination of scleral buckle and vitrectomy was done in 25.5% of patients. Vitrectomy done in 9.2% of patients was performed in proliferative retinopathy, giant retinal tear, bullous retinal detachment, posterior breaks or those with media opacity. Silicone oil was used in 7.1% of the patients. These procedures were performed by three associated consultant or consultants who have completed their fellowship and were trained in vitreo retinal surgery.

86.7% of patients achieved anatomical attachment after the primary reattachment surgery and another 9.2% of patients have flat retina after one repeat operation bringing a total of 95.9%. Three patients were followed up in a major institution, Singapore National Eye Centre for secondary procedures and their notes were traced there. The retina of 91.8% of patients remained attached at 6 months. A total of 64.1% of patients achieved a visual acuity of 6/60 or better despite having close to 80% rate of macular detachment

preoperatively. Of those patients with post op visual acuity of 6/12 or better, 43.8% of the patients had attached macula pre op and 20.8% of patients had macula off pre operatively. 85.7% of those with macular on RDs have improvement of 2 or more lines on Snellen visual acuity testing.

Reasons of failure for the primary surgery included proliferative vitreoretinopathy, inadequate buckle and new/missed breaks. Post operative complications included cataract 15.3%, macula pucker 7.1%, increased IOP 8.1% and epiretinal membrane 2.0%.

## **DISCUSSION**

Despite having a greater proportion of patients with macula off detachment (79.6%) the surgical success measured by anatomical reattachment is comparable to eye centers around the country. This could be due to the fact that the surgeons who operated were trained in vitreoretinal surgery.

Some of the procedures performed were combination of scleral buckle, vitrectomy and pneumoretinopexy. These are confounding variables which could complicate the results of the different procedures performed. Silicone oil used were not removed when the final visual acuity were charted 6 months post op and this could lead to a greater number of patients with less than optimal visual acuity .

Similar findings with previous study there was a higher incidence of RD among Chinese male patients with ages between 40 to 59 years. This could be due to the fact that 78% of the population is Chinese and they have a higher prevalence of myopia. There was also a greater proportion of the Singapore population with macula off on presentation and there may be a role in raising public awareness for the condition. Further studies may be done to find out the reasons for the macula off detachments.

The data does not reflect the actual incidence of retinal detachment or the final visual outcome in the eastern part of Singapore as some patients were referred to the major eye center (SNEC) when the VR specialist was unavailable to the patients. A few patients with complications after their primary reattachment surgery were followed up in SNEC.

From previous studies the annual incidence of rhegmatogenous RD in Singapore is 10.5 per 100,000 population. 98 patients included in the study over 7 years are actually a small fraction of the patients seen in the major centers but yet provided interesting data for comparison. A prospective study in a bigger institution would provide a more valuable study outcome.

This study highlighted to us the importance of providing a vitreo retinal support in a community hospital so that retinal detachment patients' visual outcome would not be compromised but comparable results with major eye centers can be achieved.

## **References**

1. Yorston D, Jalali S. Retinal detachment in developing countries. *Eye* 2002;16:353-358
2. David B Yorston, Mark L. Wood, Clare Gilbert. Retinal detachment in East Africa *Ophthalmology* 2002;109:2279-2283
3. Thompson JA, Snead MP, Billington BM, Barrie T, Thompson JR, Sparrow JM. National audit of the outcomes of primary surgery for rhegmatogenous retinal detachment. *Eye* 2002;16:771-777
4. Johnson Z, Ramsay A, Cottrell D, Mitchell K, Stannard K. Triple cycle audit of primary retinal detachment surgery. *Eye* 2002;16(3); 513-518
5. Minihan M, Tanner V, Williamson TH. Primary rhegmatogenous retinal detachment; 20 years of change. *Br J Ophthalmol* 2001;85:546-8
6. Rosman M, Wong TY, Ong SG, Ang CL. Retinal detachment in Chinese, Malay and Indian residents in Singapore: a comparative study on risk factors, clinical presentation and surgical outcomes. *Int Ophthalmol* 2001;24(2): 101-6
7. Af-Fat FG, Sharma MC, Majid MA, et al. Trends in vitreoretinal surgery at a tertiary referral center: 1987 to 1996. *Br J Ophthalmol* 1999;83:396-398
8. Greven CM, Wall AB, Slusher MM. Anatomic and visual results in asymptomatic clinical rhegmatogenous retinal detachment repaired by scleral buckling. *Am J Ophthalmol* 1999;128:618-20
9. Wong TY, Tielsch James M, Schein Oliver D Racial difference in the incidence of Retinal Detachment in Singapore. *Arch Ophthalmol* 1999, vol 117(3)pg 379-383
10. Laidlaw Dah, Clark B, Grey Rhb, Markham Rhc. Results of primary retinal detachment surgery: a prospective audit ( letter) *Eye* 1998; 12 751
11. Sullivan PM, Luff AJ, Aylward GW. Results of primary retinal reattachment surgery: a prospective audit. *Eye* 1997; 11:869-871
12. Hilton GF, McLean EB, Chuang EL. Retinal Detachment. *Ophthalmology monograph, American Academy of Ophthalmology*, 5th edition. 1989;pg 89-95

**Author Information**

**Yap Yew Chong**

Changi General Hospital

**Edmund Wong**

Changi General Hospital

**Doric Wong**

Changi General Hospital