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INCIDENCE OF RETINAL RE-DETACHMENT AFTER SILICON OIL REMOVAL

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ABSTRACT

Background: The term retinal detachment refer to separation of neuroepithelium from pigment epithelium (rather than the detachment of retinal pigment epithelium from the choroid). The most common cause of retinal detachment (RD) is formation of a break in the neuroepithelium which allows fluid from the vitreous cavity to enter into the sub retinal space creating rheugmatogenous RD, the breaks are sub divided into tears which occurs secondary to dynamic vitreo-retinal traction , and holes which occurs secondary to localized retinal atrophy. Once the detachment occurred identification of the retinal break is primary aim of surgery and once the break is closed the RD should not return , the attachment of silastic explant to the sclera of the eye to create an indent in the globe underneath the break allows the retina to re-attached alternatively the vitreous is removed by parsplana vitrectomy and along acting gas bubble such as sulphahexafloride or perfloro propan or silicon oil may be inserted into the cavity when proliferated vitreo retinopathy (PVR) is presented. Silicon oil is associated with a numbers of complications such as cataract, glaucoma, refractive changes, retinal toxicity and risk of re-detachment after silicon oil removal. **Aim**: to find the incidence of retinal re-detachment after silicon oil removal in relation to the type of silicon used, time of silicon removal, type of retinal detachment and age of the patient. **Methods: Study Setting**: Ibn-Alhaitham eye teaching hospital were chosen Baghdad City capital of Iraq. **Study Design**: prospective study was conducted in between the period from January 2010 till January 2011. **Sample Size**: 150 patient who underwent previous PPV and silicon oil injection due to retinal detachment was included in this study follow up for six months and more to see how many of them will have retinal re-detachment after silicon oil removal. this sample was distributed by multistage stratified simple random technique. **Data Analysis:** Descriptive and analytic statistical tools were applied. **Results**: 150 patient was included in this study follow up for six months and more, 100 of them has had rhegmatogenous retinal detachment, 50 of them has had tractional retinal detachment, 11 of them has had grade A PVR, 18 has had grade B PVR, 71 of them had grade C PVR. From the total number 21 of them have retinal re-detachment after silicon oil removal as will discloses in the tables. **Conclusion**: In this study 13 patients with rhegmatogenous retinal detachment and 8 patients with tractional retinal detachment has had retinal re-detachment after silicon oil removal.

INTRODUCTION

Retinal detachment is the separation of the neurosensory retina (NSR) from the retinal pigmented epithelium (RPE) caused by the breakdown of the forces that is attach the NSR to the RPE this will result in accumulation of the sub retinal fluid in the potential space between the NSR and RPE.

It is of four types

1. Rhegmatogenous RD: is caused by liquefied vitreous passing through a retinal break into the potential epithelio-retinal inter spaces between the NSR and RPE.[1]
2. tractional RD: caused by a proliferative membrane that is contract and elevate the retina.[1]
3. Exudative RD: caused neither by a break nor traction the SRF is derived from fluid in the vessels of the NSR or the choroid or both.
4. Combined tractional – Rhegmatogenous RD.[2]

MATERIALS AND METHODS

Patient attended to Ibn-Alhaitham teaching eye hospital who underwent PPV due to retinal detachment followed by silicon oil removal and after clinical examination (VA, IOP, Slit lamp and indirect ophthalmoscopic examination) and followed from first day post

operatively ,1st week , 1st month , 2nd , 3rd, 4th , 5th ,6th months and after.

The data are collected and analyzed.

RESULTS

The total number of patient included in this study was 150, 100 of them had rhegmatogenous RD and 50 of them had tractional RD.

13 of the rhegmatogenous RD patients had re-detachment after silicon oil removal and 8 of the tractional RD patients had re- detachment after silicon oil removal.

One case in the first week post operatively, 9 cases in the first month, 3 cases in the third month and 4 cases after the third month.

Table 1: The incidence of re-detachment and the location of the break in relation to the post-operative period.

Time of post OP examination	Number of RD
1st day	0
1st week	1
1st month	9
2nd month	4
3rd month	3
4th month	4
5th month	
6th month and after	

Table 2: site and the number of break:

Site of break	Number of cases
Superotemporal	4
Inferotemporal	11
Superonasal	4
Inferonasal	2

Table 3: Grade of PVR in the total number of the study cases(100 case of RRD).

Grade of PVR	Number
A	11
B	18
C	71
Total	100

Table 4: Type of the retinal detachment the number of the re-detachment after silicon oil removal.

Type of RD	RRD	TRD
Total number	100	50
Re-detachment	13	8

DISCUSSION

From this study that conducted on 150 patients attending Ibn-Alhaitham teaching eye hospital who underwent silicon oil removal.

21 of them had re-detachment, 13 are of rhegmatogenous RD all of them had grade C PVR, 8 of them are of tractional RD, so the retina remained attached in 129 eyes after silicon oil removal.

The highest incidence was in the 1st month post silicon oil removal and the least incidence was in the 1st week post silicon oil removal and the highest incidence is with tractional RD (16%) while rhegmatogenous RD (13%).

(3)in a comparison From a study in American journal of ophthalmology \ 147 eyes with RD and grade C PVR treated with silicon oil temponade with subsequent silicon oil removal, the result was found after silicon oil removed after a mean temponade period of 12.4 ± 9.8 months and the mean follow up after silicon oil removal was 22.1 ± 18.7 months (range 6 – 71 months), the retina remained attached in 120 eyes after silicon oil removal.

CONCLUSIONS

As concluded from this study of 150 patients the large percentage of patients were with RRD and the least were with TRD but the large percentage of re-detachment after silicon oil removal was in the TRD patients.

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