International Journal of Retina (*IJRETINA*) 2018, Volume 1, Number 2.
P-ISSN. 2614-8684, E-ISSN.2614-8536

IJRETINA
International Journal of Retina

PROFILE OF PATIENTS WITH FLOATERS IN SAIFUL ANWAR HOSPITAL MALANG

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ABSTRACT

***Introduction**: To report the profile of patients with floaters as a subjective complain in Saiful Anwar Hospital from July 2012 until June 2013.*

***Methods**: an observasional descriptive study was conducted, collecting data on gender, age, subjective complain (floaters, flashes and subjective vision reduction), best corrected visual acuity and diagnose from patient's medical record.*

***Result**: 169 patients (215 eyes) were included in this study. Female patients contributed a higher percentage than male with mean of age was 49 years old. The subjective complain was floaters (67%), floater with blurred vision (22%), floater with flashes (6%) and patients with floaters, flashes, and blurred vision was 5%. Myopia was the most common refraction problem. Diagnose recorded from this study were posterior vitreous detachment (PVD) (34%), no abnormalities (13%), PDR (10%), RRD (9%), peripheral retinal degeneration (14%) retinal break (6%), corpus vitreous degeneration (3%), vitreous haemorhage (3%), posterior uveitis (2%) and others (6%).*

***Conclusion**: The most common cause of floaters is PVD. Even it is usually a save condition but there are some condition with floater as a subjective complain which is threatening vision, so accurate eye examination from anterior to posterior segment were needed.*

Keywords: floaters, flashes, blurred vision, vitreoretinal pathology
Cite This Article: *HIDAYAH, fenti kusumawardhani; DEWI, nadia artha. Profile of Patients with Floaters in Saiful Anwar Hospital Malang. International Journal of Retina, [S.l.], v. 2, n. 1, aug. 2018. ISSN 2614-8536. Available at: <https://www.ijretina.com/index.php/ijretina/article/view/31>.*

INTRODUCTION

Patients were experiencing floaters often came with intention to consulting an Ophthalmologist without getting a clear answer. It's mainly because of the symptoms are not necessarily associated with pathology of the eye instead sometimes eye floaters are a sign of a more serious eye diseases. Floaters in vitreous are thought to be caused by 2 things that is due to the presence of exogenous material in bleeding and inflammation or caused by the molecular degeneration process of collagen fibrils of vitreous that produce local aggregation. These two forms of floaters produce shadows in the retina and are described by the patient as dots, shadows, cobwebs or other shapes depending on their shape and these shadows can be moved around in the field of view. [1-4] Most cases with complaints of floaters and flashes (flashes of light) are natural symptoms of the eye caused by posterior vitreous detachment (PVD) .[4]

Another cause of floaters is vitreous bleeding that can be caused by tearing of the retinal blood vessels due to the pull of vitreous or leakage of blood vessels in the proliferative diabetic retinopathy. Patients with posterior uveitis and vitritis also complain of floaters and are usually accompanied by blurred vision. Another relatively common vitreouse disorder is the asteroid hyalosis, but this asteroid hyalosis rarely leads to floaters complaints because of their movement within the vitreouse are minimal. New asteroids hyalosis cause complaints when very dense.[5]

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In accordance with the literatures that mention the various causes of floater and the presence of conditions that threaten vision in patients with floaters complaints, this study will describe the characteristic of the patient with the complaints of floaters and also the abnormalities obtained from fundoscopic examination in such patients in Saiful anwar hospital.

METHODS

The study was conducted at the eye clinic on Department of Ophthalmology Dr Saiful Anwar Hospital Malang during the period July 2012 - June 2013. The data were taken from the medical record of new patient who came to the eye clinic of Saiful Anwar Hospital Malang with the complaint of floater on the eyes in the period of 1 year and the sampling was done consecutively according to the time of the research.

Data recorded in this study were patient identities including gender, age, patient complaints (presence of floaters, flashes and blurred vision) refractive status and diagnosis. All new patients over 15 years old who come to the eye clinic Saiful Anwar hospital Malang with floaters on the eyes and age of patients over 15 years, were included in this study.

RESULTS

Over a period of 1 year 215 eyes were obtained from 169 patients with floater. From 169 patients 61 (36.1%) were male and 108 (63.9%) were female. The age range of patients is 15-80 years with the average age is 49 years and the most frequencies are at the age of 51-60 years of 36.7%.

Of the 169 patients ,215 eyes with a floater were found. In addition to floater, the complaints noted in this study are flashes and blurred vision. Patients with floater alone were the most found in 144 eyes (67%) followed by floater and blurred vision, 48 eyes (22%), floater and flashes found in 13 eyes (6%) and patients with three complaints at once (floater, flashes and blurred) found in 10 eyes (5%).

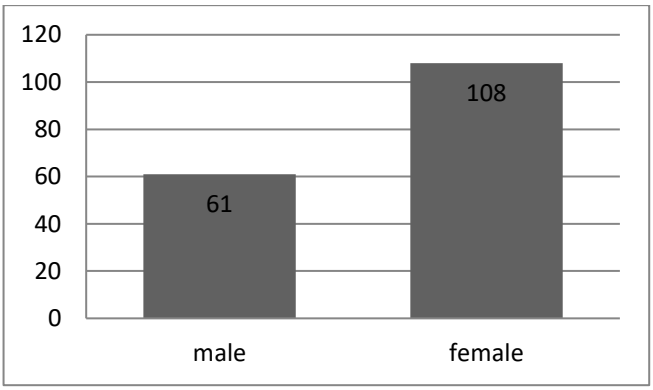

Figure 1. **Comparison of Male and Female of Patients with Floater. Floaters Were Found More in Women Than Men**

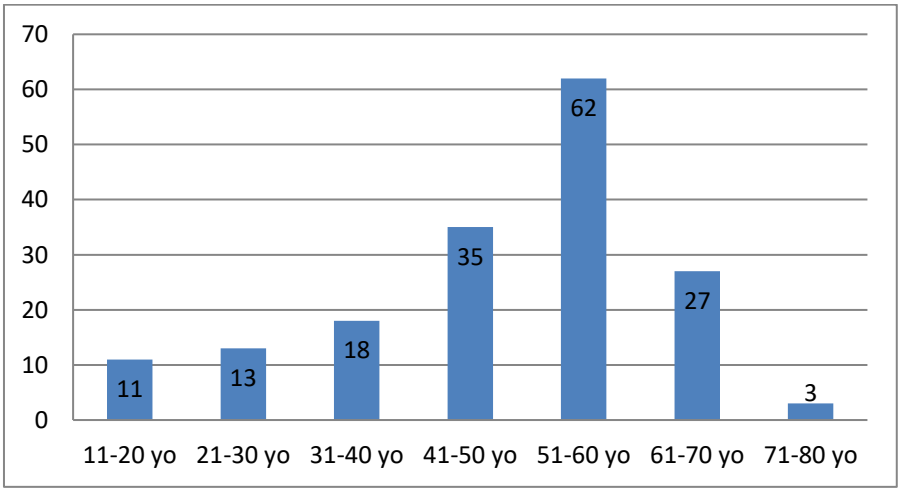

Figure 2. **Age Distribution of Patients with Floater.**

The highest range was in the fifth decade of 62 patients out of 169 patients.

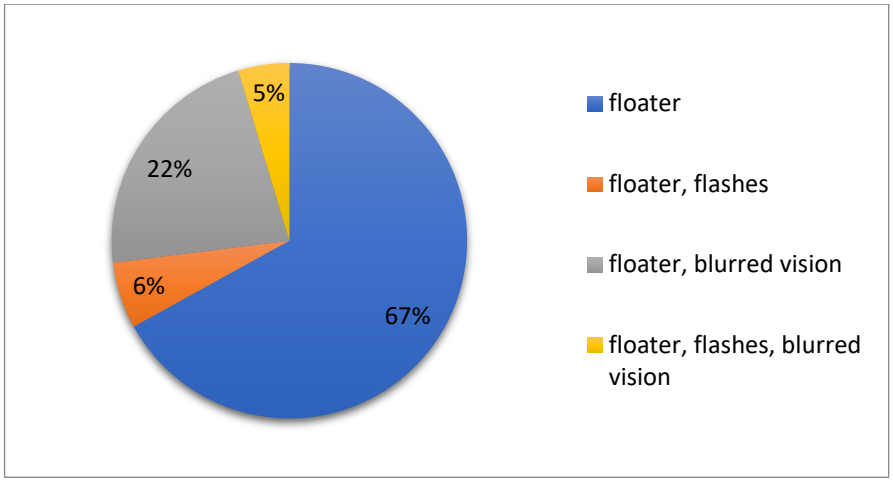

Figure 3. **Distribution of Patient with Floaters.**

Floater without flashes or blurred vision are the most common condition.

The refractive status of 215 eyes with floater was myopia of 96 eyes (46%) consisting of 36% eyes (17%) mild myopia, moderate myopia 21 eyes (10%) and high myopia 40 eyes (19%). While hypermetropia were 46 eyes (21%) and emmetropia is 41 eyes (19%).

The diagnoses based on the results of the fundoscopic examination are as listed in figure 4 and 5, with the most presentations being the posterior vitreous detachment of 73 eyes (34%), fundal results with peripheral retinal degeneration are 30 eyes (14%), normal 28 eyes (13%) , Proliferative Diabetic Retinopathy 22 eyes (10.2%), rhegmatogenous retinal detachment by 18 eyes (9%), retinal break of 13 eyes (6%), vitreus and vitreus haemorhage 3% degeneration of the corpus vitreus and vitreus haemorhage. While the other diagnosis is 6%. Included in this other diagnosis are NPDR, choroid melanoma, chorioretinal atrophy, CRVO, retinopathy hypertension and wet AMD.

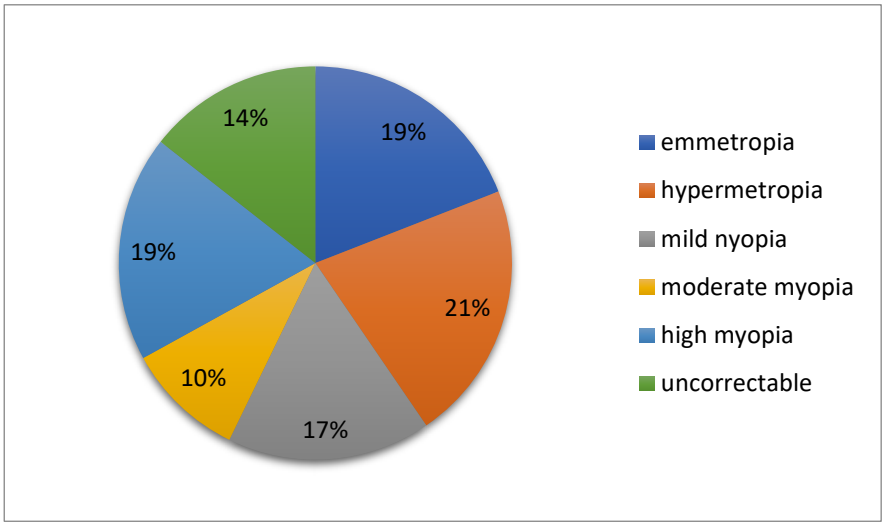

Figure 4. **Distribution of Refraction Status. Patients with Refractive Myopia Status Were The Most Found.**

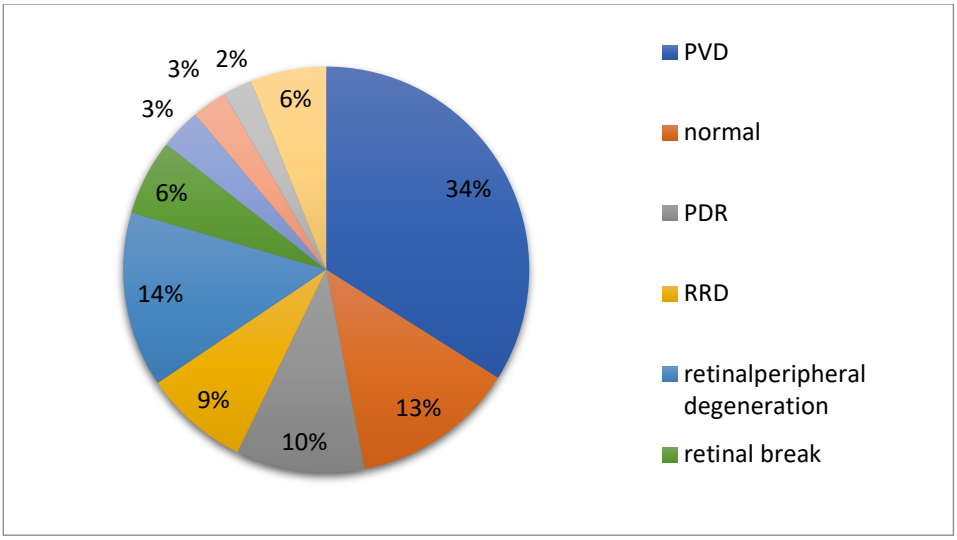

Figure 5. **Diagnosis Based on Fundoscopic Findings**

Most patients with floaters were found to have PVD.

DISCUSION

This study describes the characteristics of patients with floater s that are often described as black spots such as mosquitoes or like hair that moves to the eye. From this research, the characteristic of patients with the highest age with floater is at age fifth decade that is equal to 36,7%.

The most diagnostic findings based on fundoscopic examination in this study is PVD equal (34%). In many other studies with floaters, it was found that PVD was the most common cause as in the study by Dayan et al (1996) obtained PVD in patients with floater was 64%. Similarly, the study by Diamond (1992) in which PVD is present in 44.9% of patients with floater. [6.7] In this study, PVD was most common in fifth decades is 36.9% and 6.7% in sixth decades. Posterior vitreous detachment is an age-related degeneration process in which the more elderly the prevalence is greater than 24% in elderly decade 5 increased to 87% in decade 8.[6] However, in this study there is a decline in the age above decade 5 caused by the number of research samples which is small and is likely to be at a later age level of hospital visits is indeed down due to limited mobilization in old age. In this study it appears that the number of patients diagnosed with PVD at age under 5 decades was less than in the age above decade 5 (35.6% compared with 71.2%).

Myopia is referred to as one of the risk factors for PVD associated with axial length is longer in myopia.[4] In a study of 73 eyes diagnosed with PVD found 30.1% myopia and 27.3% with hypermetropia. In a study by Shen et al (2013), the prevalence of PVD in China was 2.7% and 6.6% in high myopia. In a study by Shen et al, it was found out that the risk factors for PVD were women, advanced age and young age with high myopia.[8] In this study of 40 patients with high myopia 30% were diagnosed with PVD.

In some studies, mentioned that patients with PVD do not require periodic examination if no pigment cells are found in the vitreous, vitreous hemorrhage, or retinal hemorrhage at baseline examination. However, given the potential for slow retinal breaks or RRDs, patients with under 50 years of age should be regularly examined.[9] This is supported by Dayan's study which in his study concluded that PVD would develop into a serious pathological condition that is only 1.9% of cases but if there is no periodic follow up in patients with PVD then the incidence of missed retinal breaks is serious.[7] In relatively young patients the occurrence of visual impairment after a floater usually lasts for a relatively long period of time by because vitreous syneresis will continue and the effects of vitreous gel or vitreous contractions will cause late onset of RRD. Therefore, an immediate examination after the floater can locate pathological conditions requiring prophylactic photocoagulation laser therapy in the early stages of retinal tear or when minimal retinal detachment occurs.[7]

Dayan et al found the cause of floater by retinal tear at 10.5% and because retinal detachment of 16.6%. In this study, the retinal break was found 6% and Rhegmatogenous retinal detachment was 9%. While Diamond found a retinal break at 17.7% and detachment found 0.7% .[6,7] A meta-analysis study by Holland et al (2009) mentions that the prevalence of retinal tears in patients with flashes without floaters is almost the same as patients who complain of floater without flashes and the complication of retinal tear in PVD was 14% .[4] In the study by Singalavanija et al (2010) mentioned that patients with multiple floaters had a retinal tear risk 5.8 times greater than those that only complained about single floater. The study also mentioned an increased risk of retinal tear in patients with floaters complaints with flashes of 4.3 times greater than that of only floaters.[10] In

this study, 144 patients who provided only a floater complaint were only 7 (4, 9%) found retinal break, most patients with the single complaint found the existence of PVD was 62 patients (43.1%). Of the 13 patients who complained of flashes and floater 53.8% were diagnosed with PVD and 3 patients (23.1%) found retinal break. Of 48 patients with floater complaints accompanied by a vague 27.1% (13) found presence of RRD and 27.1% (13) were derived PDR. In patients who gave three complaints of floater, flashes and blurred are also caused by RRD and PDR that is 40% each of 10 patients with the complaint. In a meta-analysis study by Holland et al also mentioned that age over 60 years with increased PVD is not accompanied by an increase in retinal tear and at a younger age also does not increase the risk of retinal tear. The relationship between myopia and retinal tear also cannot be demonstrated in the four studies in the meta-analysis study.[4] In this descriptive study, retinal breaks obtained at age over 60 years were 4 eyes, 12.5% in the 61-70 year age group and the RRD only found in under 60 years of age. In patients with retinal breaks who have myopia status is 38.4% of 13 patients whereas from patients with RRD who have myopia refraction status is 22.2% of 18 patients. In Diamond (1992) study was found patients with normal eyes who complain of the existence of floater is equal to 23.8% and in this study was found in 13% of patients. These patients may be caused by being very sensitive to a process of seneresis that occurs. In addition to the 13% of patients in this study who found normal conditions on the funduscopic examination, possible floater caused by causes outside the eyes cannot be removed because of the limitations of information obtained from medical record data. The cause of the outer eye for example is migraine, which in the study by Diamond (1992) migraine occurred in 8.7% of patients with bilateral floater complaints.

This study have several limitation, particularly the data which taken from medical records, hence the bias cannot be avoided.

CONCLUSION

The most common cause of floaters is PVD. Even it is usually a save condition but there are some conditions with floaters as a subjective complaint which is threatening vision, so accurate eye examination from anterior to posterior segment were needed.

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