

ORIGINAL RESEARCH

Assessment of vitreo- retinal diseases among ophthalmic out patients

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ABSTRACT

Background: Retinal diseases are the major causes of visual impairment in developed countries. The present study was conducted to assess vitreo- retinal diseases among ophthalmic out patients.

Materials & Methods: 84 patients of vitreous retinal diseases of both genders were included.

Best corrected visual acuity (BCVA) at presentation was measured using a Snellen chart. Intraocular pressure was measured by Goldmannapplanation tonometry or an iCare tonometer, and the anterior and posterior segments were examined under slit-lamp biomicroscopy and 90D bio-microscopy. The fundusoscopic findings were confirmed by binocular indirect ophthalmoscope.

Results: Out of 84, males were 54 and females were 30. Presenting symptoms were floater in 23, poor vision in 15, headache in 11, watering eye in 27, discomfort eye in 32, white eye in 10, traumain 5 and night blindness in 12. The mode of injury was road traffic accident in 26, fall from height in 13, assault/fight in 10, electric wire in 14 and others in 21. Common vitreo- retinal diseases were retinal detachment in 20, hypertensive retinopathy in 16, diabetes retinopathy in 12, retinal vein occlusion in 10, macular hole in 16, optic nerve involvement in 6 and vitreous haemorrhage in 4 cases.

Conclusion: Common vitreo- retinal diseases were retinal detachment, hypertensive retinopathy, diabetes retinopathy, retinal vein occlusion, macular hole, optic nerve involvement and vitreous haemorrhage.

Key words: Diabetes retinopathy, macular hole, vitreo- retinal diseases

INTRODUCTION

Retinal diseases are the major etiologic factors of visual impairment in developed countries. Retinal disease had a low priority in prevention of blindness programmes in developing countries mainly because retinal diseases are an uncommon causing factor of blindness in the developing world.¹ In developing countries like India, the primary causes of avoidable blindness are cataract, nutritional blindness, corneal scarring and glaucoma. With various interpolation programmes, the focus has been on the eradication of these conditions such as availability of low- cost technology resulting in snowballing cataract surgical rate, vitamin A distribution and food fortification for corneal scarring from Vitamin A deficiency.²

Diabetes mellitus and hypertension are often stated as the underlying diseases for the emergence of retinal diseases.³ In Asia alone, problems in VR are appraised to increase as

there is an upsurge in the number of people with diabetes mellitus in 2030. The prevalence of hypertension was also increased by 8.3% compared to the previous five years.⁴

Vitreoretinal disorders create a significant cause of ocular morbidity and vision loss with reported hospital prevalence rates ranging from 4.5% to 13.0%. Previous reports from hospital-based studies and general population to determine causes of low vision have implicated vitreoretinal diseases as a major public eye health burden.⁵ To confront this emerging public health challenge, there is the obvious need to provide affordable and accessible diagnostic and therapeutic facilities, and appropriately trained ophthalmic personnels.⁶ The present study was conducted to assess vitreoretinal diseases among ophthalmic out patients.

MATERIALS & METHODS

The present study comprised of 84 patients of vitreous retinal diseases of both genders. The consent was obtained from all enrolled patients.

Data such as name, age, gender etc. was recorded. A careful eye examination was carried out by an expert eye surgeon. Best corrected visual acuity (BCVA) at presentation was measured using a Snellen chart. Intraocular pressure was measured by Goldmann applanation tonometry or an iCare tonometer, and the anterior and posterior segments were examined under slit-lamp biomicroscopy and 90D bio-microscopy. The fundus findings were confirmed by binocular indirect ophthalmoscope. Macular and retinal nerve fibre (RNFL) scans were measured using a Spectral Domain OCT. Hypertensive retinopathy (HTR) was graded using the Keith-Wagener-Barker classification system. Diabetic retinopathy (DR) was classified as per the modified Airlie House or Abbreviated ETDRS classification. Age-related macular degeneration (AMD) was classified by the clinical classification of age-related macular degeneration method. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

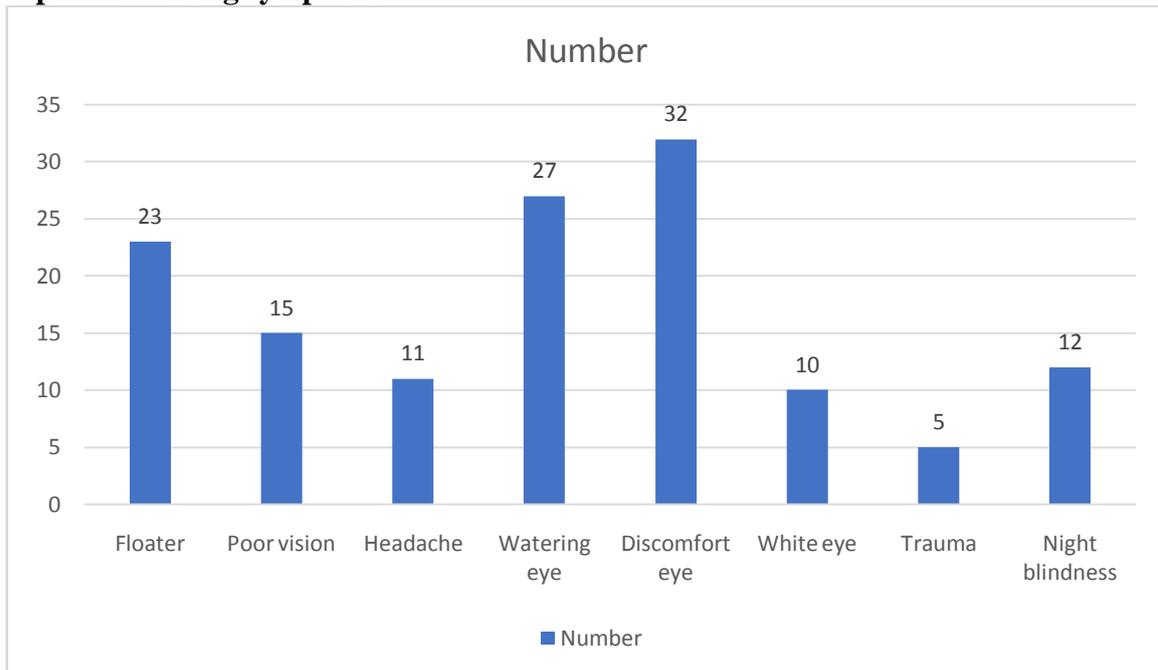
Total- 84		
Gender	Males	Females
Number	54	30

Table I shows that out of 84, males were 54 and females were 30.

Table II Presenting symptoms

Symptoms	Number	P value
Floater	23	0.05
Poor vision	15	
Headache	11	
Watering eye	27	
Discomfort eye	32	
White eye	10	
Trauma	5	
Night blindness	12	

Table II, graph I shows that presenting symptoms were floater in 23, poor vision in 15, headache in 11, watering eye in 27, discomfort eye in 32, white eye in 10, trauma in 5 and night blindness in 12. The difference was significant (P < 0.05).

Graph I Presenting symptoms**Table III Mode of injury**

Mode of injury	Number	P value
Road traffic accident	26	0.05
Fall from height	13	
Assault/fight	10	
Electric wire	14	
Others	21	

Table III shows that mode of injury was road traffic accident in 26, fall from height in 13, assault/fight in 10, electric wire in 14 and others in 21. The difference was significant ($P < 0.05$).

Table IV Vitreo- retinal diseases

Vitreo- retinal diseases	Number	P value
Retinal detachment	20	0.05
Hypertensive retinopathy	16	
Diabetes retinopathy	12	
Retinal vein occlusion	10	
Macular hole	16	
Optic nerve involvement	6	
Vitreous haemorrhage	4	

Table IV shows that common vitreo- retinal diseases were retinal detachment in 20, hypertensive retinopathy in 16, diabetes retinopathy in 12, retinal vein occlusion in 10, macular hole in 16, optic nerve involvement in 6 and vitreous haemorrhage in 4 cases. The difference was significant ($P < 0.05$).

DISCUSSION

There has been a significant increase in the load of vitreo-retinal disorders globally.⁷ With increased longevity and increased uptake of cataract surgical services, retinal diseases especially those due to diabetes and AMD are coming up as important causes of blindness and visual impairment.⁸ In spite of the effort and expense involved in acquiring costly equipment and developing skilled human resource for retinal sub specialty, failure in justifying the treatment results of retinal disease has also contributed to the development and strengthening of this assumption.⁹ Previous reports from hospital based studies and general population surveys of causes of low vision have implicated vitreo-retinal diseases as the major public eye health burden.¹⁰ The present study was conducted to assess vitreo-retinal diseases among ophthalmic out patients.

We found that out of 84, males were 54 and females were 30. Ezeet al¹¹ determined the rate and pattern of vitreo-retinal diseases at a tertiary eye care center. Diabetic retinopathy (24.9%), hypertensive retinopathy (13.3%), and age-related macular degeneration (10.7%) were the main vitreo-retinal diseases. Blindness from vitreo-retinal disease was bilateral in 6.1% of subjects and unilateral in 17.5% of subjects. The other frequent co-morbidities were ocular conditions such as refractive error (19.8%), cataract (14.2%), and glaucoma (10.4%); and systemic conditions such as diabetes mellitus (14.6%) and hypertension (13.2%).

We found that presenting symptoms were floater in 23, poor vision in 15, headache in 11, watering eye in 27, discomfort eye in 32, white eye in 10, trauma in 5 and night blindness in 12. Ul Huda et al¹² evaluated the frequency and pattern of retinal diseases in ophthalmic outpatient department of a district hospital. A total number of 173 referred new retina cases were reviewed. Out of 7164 new patients of whom 173 patients were (2.42%) presented with retinal diseases. 139 patients were reviewed and followed up. Male: female ratio was 1.24:1. Out of 139 patients 77 (55.4%) were males and 62 (44.6%) females with a peak age group of 41-50 years. Diabetic related retinal conditions were 36 cases (25.9%), the most common cause. 16 (44.44% of total DR) patients had CSME and 5 (14.9%) had ADED. Diabetic retinopathy 36 cases (25.9%), Chorioretinitis 20 cases (14.4%), ARMD 11 cases (7.9%), and Optic atrophy 10 cases (7.2%).

We found that common vitreo-retinal diseases were retinal detachment in 20, hypertensive retinopathy in 16, diabetes retinopathy in 12, retinal vein occlusion in 10, macular hole in 16, optic nerve involvement in 6 and vitreous haemorrhage in 4 cases. Arshantiet al¹³ identified pattern and distribution of vitreo-retinal (VR) diseases. Out of 2118 total visits, we found 1191 new cases with VR diagnosis. Male to female ratio was 1.3:1. We found group of 46-65 years are represented in 678 cases (56.9%). Type 2 diabetes mellitus was the most commonly found as a systemic disease (15.5%), followed by the combination of diabetes and hypertension (14%) and hypertension alone (12.9%). History of previous cataract surgery was found in 174 cases (14.6%). Out of 1191 patients, 553 patients (46.4%) were blind. The most common diagnosis was diabetic retinopathy (24.3%), followed by rhegmatogenous retinal detachment (14.2%), and pathological myopia (8.9%). Diabetic retinopathy and pathological myopia affected both eyes in 257 cases (88.6%) and 96 cases (90.6%), respectively, while rhegmatogenous retinal detachment affected one eye in 164 cases (97%). Proliferative diabetic retinopathy was found in 173 cases (59.7%).

Raie et al¹⁴ in their study the 2913 new cases were aged 47.2 ± 21.8 years. 1544 (53.0%) were males. Housewives (953, 32.7%) and farmers (648, 22.2%) were the commonest occupations. Poor vision (41.9%), screening for diabetic and hypertensive retinopathy (13.1%), referral (9.7%), sudden vision loss (9.3%), and trauma (8.0%) were the most common presenting symptoms. Coexistent diabetes and hypertension were the most common associated systemic diseases. Haematological tests (blood sugar, HbA1c and lipid profile, 31.8%), OCT (27.4%), refraction (9.9%), B-scan (8.7%), fundus photography (8.0%) were the most commonly

performed diagnostic tests. Hypertensive retinopathy (18.9%) was the commonest VR disease, followed by refractive errors referred for retinal evaluation (16.7%), diabetic retinopathy with macular oedema (15.8%), and AMD (11.0%). Retinal detachment was more prevalent in females. Rare vision-threatening diseases like seasonal hyper-acute pan-uveitis also presented.

CONCLUSION

Authors found that common vitreo- retinal diseases were retinal detachment, hypertensive retinopathy, diabetes retinopathy, retinal vein occlusion, macular hole, optic nerve involvement and vitreous haemorrhage.

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