



ROLE OF SYSTEMIC RISK FACTORS IN PATIENTS WITH RETINAL VEIN OCCLUSION

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ABSTRACT **Aim:** To study the role of systemic risk factors in patients with RVO.

Methods : Thirty patients were included in this study. Detailed history and enquiry regarding the history of hypertension, hyperlipidaemia, diabetes, smoking, and blood dyscrasias were done. A complete ophthalmic evaluation of both eyes was done, including visual acuity, external ocular examination, slit-lamp biomicroscopy, funduscopy, fundus photographs, and laboratory tests.

Results: Out of 30 patients, 22 had BRVO, and 8 patients had CRVO. Mean age of the patients was 63.3 years, with males more than females. Hypertension is the most common risk factor. Out of 30 patients, 19 patients had hypertension, 16 had the habit of smoking, 18 had hyperlipidemia, increased ESR found in 9 patients and increased mean platelet volume seen in 4 patients. Most of the patients had multifactorial etiology rather than a single factor.

Conclusion: Hypertension, hyperlipidemia, smoking, diabetes mellitus, rise in mean platelet volume are important risk factors for RVO. Patients with retinal vein occlusions should be investigated thoroughly, and appropriate treatment should be given. Early diagnosis and treatment are important to avoid visual morbidity.

KEYWORDS :

INTRODUCTION

Retinal vein occlusion (RVO) disorder collectively constitutes one of the major causes of blindness. It is the second most common cause of the retinal vascular disease after diabetic retinopathy. The overall prevalence of RVO is 1-2% in subjects older than 40 years of age. Individually, CRVO AND BRVO constitute 0.08% and 0.44%, respectively. RVO occurs mainly in middle-aged and old individuals with a history of arterial hypertension, diabetes, and atherosclerotic disease. Atherosclerosis, hypertension changes both summarised as major causes of pathophysiology and cause endothelial dysfunction, thrombocyte activation leading to retinal vein occlusion.

MATERIALS AND METHODS

This was a one-year cross-sectional study done at our ophthalmology department. 30 patients were included in this study after obtaining an informed consent. Demographic parameters such as age, sex, occupation, and address were noted. A detailed history was taken from patients, including duration of visual symptoms and ocular medication. patients were enquired regarding the history of HTN, hyperlipidemia, diabetes, smoking habits, ocular diseases, and other risk factors such as any form of blood dyscrasias. The treatment history was also noted. A complete ophthalmic evaluation of both eyes was done, including: Best-corrected visual acuity for both near and far vision, External ocular examination, Slit-lamp -biomicroscopy, Fundoscopy, Fundus photograph, Laboratory tests like serum lipid profile, platelet count and mean platelet volume, Complete haemogram, and ESR values.

Distribution of demographic, clinical pattern, and risk factors was noted.

RESULTS

Out of 30 study population, 18 (60%) were males, and 12 (40%) were females. Out of 30 patients, 22 were BRVO patients, and 8 were CRVO patients. Out of 18 males, 6 had CRVO, and 12 had BRVO. Out of 12 females, 2 had CRVO, and 10 had BRVO.

GENDER	BRVO	CRVO
Males (18)	12	6
Females (12)	10	2

Hypertension is the most common risk factor accounting for 63.3%, followed by hyperlipidemia (60%), smoking (53.3%). Diabetes (46.6%) is not as common compared to the above three. A raise in ESR accounts for 30%, and a raise in MPV accounts for 13.33%.

Risk Factors	Number Of Patients Affected	Percentage
Hypertension	19	63.3%
Hyperlipidemia	18	60%
Smoking	16	53.3%
Diabetes mellitus	14	46.6%
Raise in ESR	9	30%
Raise in mean platelet volume	4	13.3%

DISCUSSION

The prevalence of both BRVO (54.5%) and CRVO (75%) was more in males when compared to females. This may be due to increased predisposing factors seen in males. Hypertension (63.3%) and hyperlipidemia (60%) are common risk factors for adults, and diabetes mellitus (46.6%) is less common. Smoking or tobacco chewing (53.3%) is also considered as a contributing factor for atherosclerosis. It initiates an inflammatory stimulus leading to atherosclerotic changes. Hematological abnormalities can also cause thrombus formation by causing stagnation of flow in the vein. Platelets have a crucial role in the pathophysiology of thrombosis. MPV is relatively higher in patients with hypertension as a risk factor with BRVO. Out of 30 patients, 22 had at least two risk factors. Thus, pointing over the multifactorial etiology rather than the single risk factor in the causation of the disease.

CONCLUSION

The pathogenesis of retinal vein occlusions is a multifactorial process. Few risk factors predispose an individual to develop the disease while others act as an adjuvant to the final insult to produce a clinically evident disease. Systemic risk factors like hypertension, diabetes mellitus, hyperlipidemia, and smoking play a main role in the causation of the disease.

Public health measures for prevention, early diagnosis, and proper treatment of these conditions may help in the prevention of retinal vein occlusions. Thus, reducing the morbidity and mortality due to these diseases in the population.

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