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ORIGINAL RESEARCH PAPER

CLINICAL PROFILE OF RETINAL VEIN OCCLUSION IN CENTRAL INDIA

KEY WORDS: BRVO-Branch

Opthalmology

Retinal Vein Occlusion, CRVO-Central Retinal Vein Occlusion, RVO- Retinal vein occlusion.

Dr.	Yuri Kashiv*	(M.S), Department of ophthalmology, Gandhi Medical College and Hamidia Hospital,Bhopal,M.P,India.*Corresponding Author				
Dr.vivek Som		(M.S), Department of ophthalmology, Gandhi Medical College and Hamidia Hospital,Bhopal,M.P,India.				
Dr. Prof. Kavita Kumar		(M.S), Department of ophthalmology, Gandhi Medical College and Hamidia Hospital,Bhopal,M.P,India.				
ABSTRACT	PURPOSE: To evaluate clinical profile of patients with retinal vein occlusion. MATERIAL AND METHOD: A hospital based cross sectional study is carried out in the patients attending the Patient Department of the tertiary care centre of Central India for the period of 1.5 years. Demographic details patient like age, sex etc. were recorded. A detailed history was obtained from the patient regarding their sym- medical conditions and the treatment history of the same. Later on data was analyzed statistically. RESULTS: The p study included 38.35% cases of CRVO and 61.65% cases of BRVO and BRVO was more predominant than CRV mean age at presentation was 55.2 years. Sex ratio was 1.6.Systemic hypertension(51.4%), diabetes mellitus(25.7 BRVO and dyslipidemia(37.1%) for CRVO were the main risk factors recorded in our patients. Ischaemic CRW found to be associated with low visual acuity at presentation. Macular edema (73.6%) was found to be the most co- complication associated.					

CONCLUSION: RVO is a significant cause of visual impairment, with BRVO being more common. Identifying associated risk factors and treating these could help reduce the incidence of RVO.

INTRODUCTION:

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Retinal Vein Occlusion is the second most common retinal vascular disease after diabetic retinopathy.(1,2)The exact pathological event that occurs in RVO is unclear but it results from intraluminal thrombus formation associated with changes in the blood constituents, blood flow or vessel wall consistent with Virchow's triad for thrombogenesis.(3,4) It is the fifth most frequent cause of unilateral blindness(5).The prevalence of RVO has been shown to vary from 0.7% to 1.6% and it affects approximately 16.4 million people worldwide.It is estimated that 13.9 million persons worldwide have BRVO and 2.5 million have CRVO(6)

The major systemic risk factors for RVO are advancing age, systemic disorders like hypertension, arteriosclerosis, diabetes mellitus, hyperlipidemia, hyperviscosity and thrombophilia(7),(8),(9),(10),(11),(12) Ocular disorders like primary open angle glaucoma or ocular hypertension are the major ocular risk factors.

With this background we venture to study the clinical profile and various systemic and ocular risk factors for RVO in a tertiary eye care centre of Central India.

AIM- To evaluate clinical profile of patients with retinal vein occlusion

MATERIAL AND METHODS-The present study was a hospital based Prospective Observational study conducted in Department of Ophthalmology in tertiary care centre of Central India for duration of 1.5 year. Total 76 eyes of 73 patients were evaluated which came from opd. After obtaining a detailed history regarding their systemic medical conditions and the treatment history of the same, patient underwent a complete ophthalmic examination. Schiotz tonometry was done. Pupillary dilatation done with 0.8% tropicamide & 0.5% phenylephrine eye drop then detailed fundus examination by Heines β 200 S direct ophthalmoscope and Appaswamy indirect ophthalmoscopy using Volk +20D lens was done. Laboratory testing should be done to rule out systemic vascular problems.

RESULTS- This study included 38.35% cases of CRVO in
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which 26(92.85%) were ischemic type and 2 (7.15%) were non-ischemic and 61.65% cases of BRVO

Table 1 Demographic Characteristics Of Different Types Of Rvo

S.No	Characteristics	CRVO	BRVO	P VALUE
1	Mean range of	58.14±12.7	53.74±11.34	0.12
	age	4 years	years	
2	Sex Ratio	2.1	1.36	0.14
3	Laterality	27/1	43/2	0.37

No significant difference in mean age, gender and laterality was observed between the patients of CRVO and BRVO (p>0.05).

Table	2	Clinical	Characteristics	Of	Different	Types	Of
Rvo							

S.No.	Characteristics	CRVO	BRVO	P value
1.	Mean BCVA at	1.6 ± 0.89	0.98 ± 0.60	0.001
	presentation in			
	log mar			
2.	RAPD	12	4	0.001
3.	Most common	Dyslipide	Hypertensi	0.003
	risk factor	mia	on	
	associated	(21/28)	(27/45)	

The visual acuity of CRVO patients was significantly poor at the time of presentation as compared to patients diagnosed with BRVO (p<0.05).

RAPD was observed in 12 patients of CRVO and 4 patients with BRVO and the difference was statistically significant (p<0.05).

Table 3 Risk Factors Associated With Rvo

S.No	Risk factors	CRVO (n=28)	%	BRVO(n=45)	%
1.	Hypertension	10	38.5	32	71.1
2.	Diabetes mellitus	10	38.5	11	24.4
3.	Dyslipidemia	14	53.8	4	8.88
4.	POAG	4	15.3	3	6.66
5.	CAD	1	3.8	1	2.22
6.	Homocystein emia	2	7.6	0	0

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7.	Vasculitis	1	3.8	4	8.88
8.	Hypermetropia	19	73.1	25	55.5
9.	Smoking	3	11.5	4	8.88

Dyslipidemia was the most common associated systemic risk factor in crvo and hypertension (71.1%) was the commonly associated systemic risk factor followed by diabetes mellitus (24.4%) in brvo. Among the ocular risk factors, hypermetropia was commonly associated.

DISCUSSION-

The mean age in this study was 55.2 ± 12.01 years. It was found that both CRVO and BRVO are more prevalent above 50 years of age. **Hayreh (1994) (1,13)** reported that the age of onset of RVO was between 14 and 92 years and more than 51% of patients were aged above 65 years.

The present study showed that RVO was more prevalent in males. The sex ratio observed in the overall study group is 1.6. **Koizumi et al(2007) (14)**concluded sex ratio as 1.52 whereas **Hayreh (1994)(1,13)** found equal gender predilection.

In the current study, it is found that BRVO (61.65%) was more prevalent than CRVO (38.35%). **Hamid S, Mirza SA and Shokh I (2008)(15)** and **Kolar P (2014)(16)** in their studies also reported that BRVO is 4 to 6 times more prevalent than CRVO.

It is observed that 26(92.85%) patients had ischemic and 2(7.15%) patients had non ischemic type of CRVO. There is significant difference in the prevalence of both the types of CRVO in this study. **Shah and Shah (2011)(17)** reported that Ischemic variety was more common than non-ischemic variety.

In the present study, overall 50 patients had hypertension and out of these 32 patients (71.7%) had BRVO and 18 patients (64.2%) had CRVO. It was found that BRVO is more commonly associated with hypertension. This was consistent with various other studies by **The Eye Disease Case Control Study (EDCCS),Lam HD et al(2010)(13,18)** which demonstrated strong association between BRVO and hypertension. **Stem MS et al(2013)(19)** concluded that CRVO was associated with hypertension.

In the current study it is found that both CRVO (39.2 %) and BRVO (26.6%) were commonly associated with diabetes mellitus. **Stem MS et al(2013)(19)** found that diabetes mellitus is associated with CRVO and BRVO.

We found that around 62.9% patients with CRVO and 8.88% patients with BRVO have dyslipidemia. It is also concluded that CRVO is strongly and significantly associated with dyslipidemia. Similarly, **Cheung N et al (2008)(11)** found that dyslipidemia was associated with both types of Retinal Vein Occlusion.

In the present study it was found that hypermetropia was present in 47 patients including 19 (82.6%) with CRVO and 28 (56.5%) with BRVO. Hypermetropia was concluded as a risk factor in the studies done by **Ariturk N et al (1996) (20)**

In the present study it is found that metabolic syndrome is present in patients of both CRVO (39.2%) and BRVO (33.3%).

CONCLUSION-

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RVO is the second most common retinal vascular disease after diabetic retinopathy. RVO is a relatively common and frequently devastating cause of visual loss mainly in older patients. Most of the systemic disorders are co- existing, so complete evaluation of the systemic and ocular risk factors should be done.

If the clinicians are aware of the presence of these risk factors,

which are amendable to treatment, prompt preventive actions could be taken to halt the progress and avoid severe visual disabilities.

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