



ORIGINAL RESEARCH PAPER

Ophthalmology

PROFILE OF CENTRAL SEROUS CHORIORETINOPATHY AT A TERTIARY CARE CENTRE IN NORTH INDIA

KEY WORDS:

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ABSTRACT

Introduction: Central serous chorio-retinopathy, most commonly known as CSR, is a sporadic disease of unknown etiology characterized by blister-like serous detachment of the neurosensory retina and retinal pigment epithelium in the posterior pole of the eye, usually involving the macula. This study was conducted with aim of studying the clinical profile and visual outcome of CSR patients presenting to a tertiary care centre in North India.

Materials And Methods: All newly diagnosed OPD patients of CSR who consented for follow up for 6 months were included in the study. Patients with a previous history of CSR, intraocular surgery, glaucoma, uveitis, choroidal tumors, any other macular or retinal diseases, suffering from confounding diseases like diabetes mellitus or patients lost to follow up for 6 months were excluded from the study.

Results: The study included 50 eyes of 48 patients who were diagnosed as CSR. Majority of the patients were male (81.25%), and most of the patients had unilateral CSR. Most of the patients were in the age group of 31-40 years (43.75%) and majority of the patients were IT professionals (33.34%), followed by those in medical field (29.16%) and businessmen (14.59%). On studying the presence of any identifiable risk factors, majority of the cases were found to be idiopathic (43.75%), followed by presence of stress (29.17%). The visual acuity in most eyes (34%) at the time of presentation was 6/12, followed by 6/18 (20%). Only 2 eyes (4%) had a visual acuity of 6/60 or less. Visual acuity of 6/6P-6/6 improved from 2 eyes (4%) at initial presentation to 26 eyes (52%) at 3rd month follow up and 34 eyes (68%) at 6th month follow up.

Conclusion: CSR is a disease mostly of the third and fourth decade males, which resolves spontaneously or after treatment and has a good long term prognosis for visual function.

INTRODUCTION:

Central serous chorio-retinopathy, most commonly known as CSR, is a sporadic disease of unknown etiology characterized by blister-like serous detachment of the neurosensory retina and retinal pigment epithelium in the posterior pole of the eye, usually involving the macula with angiographic retinal pigment epithelium leakage and choroidal hyperpermeability.^{1,2,3} Acute CSR is often distressing for patients as they usually present with reduced visual acuity or positive scotomas. Most cases are said to resolve spontaneously within a few months, but the recurrence rate has been reported to be as high as 50% in the majority of cases.⁴ Recurrent episodes or chronic, non-resolving disease can lead to more widespread anatomical disruption causing RPE dysfunction and visual loss. The pathogenesis of the disease remains poorly understood, but a number of risk factors have been identified.⁵⁻⁷ Known risk factors include exogenous steroid usage, Type A personality, male sex, hypertension, H. pylori infection, stress, sleeping disturbance, psychopharmacological medication use and autoimmune disorders.⁸ The natural course of acute CSR is self limiting with resolution of neurosensory retinal detachment and generally good visual recovery within 3 months.⁹ However, in the long term, approximately half of the patients experience persistent or recurrent SRF.¹⁰ In these patients, the prognosis can be poor due to complications such as diffuse atrophy of the retinal pigment epithelium (RPE), subretinal fibrosis, and thinning of the outer sensory retina.

This study was conducted with aim of studying the clinical profile and visual outcome of CSR patients presenting to a tertiary care centre in North India.

MATERIALS AND METHODS:

This single centre prospective observational study was conducted at the Postgraduate Department of Ophthalmology, Government Medical College, Srinagar over

a period of 1 year. The study was designed in accordance with Declaration of Helsinki. All newly diagnosed OPD patients of CSR who consented for follow up for 6 months were included in the study. Patients with a previous history of CSR, intraocular surgery, glaucoma, uveitis, choroidal tumors, any other macular or retinal diseases, suffering from confounding diseases like diabetes mellitus or patients lost to follow up for 6 months were excluded from the study.

Detailed history was taken keeping in view information about age, sex, diseases like hypertension, diabetes mellitus, stress, sleep deprivation, drug history, and personal details regarding occupation, smoking etc. The patient underwent complete ophthalmological examination, vis visual acuity using snellen's chart, anterior segment examination with a slit lamp, dilated fundus examination using 90D lens and indirect ophthalmoscopy, Optical Coherence Tomography using Cirrus HD-OCT (Carl Zeiss Meditec) and Fundus Fluorescein Angiography.

RESULTS:

The study included 50 eyes of 48 patients who were diagnosed as CSR. Majority of the patients were male (81.25%), and most of the patients had the findings of CSR in one eye only (95.83%). [Table 1]

Table 1: Baseline Characteristics Of CSR Patients

No. of cases	Mal es	Percen tage %	Fem ales	Percen tage %	Unila teral	Percen tage %	Bilat eral	Percen tage %
48	39	81.25	9	18.75	46	95.83	2	17

Most of the patients were in the age group of 31-40 years (43.75%), and the other substantial number of patients were in the age group of 41-50 years (27.08%) followed by 21-30 years (20.84%). Only 1 patient was seen in the age group of 61-70 years, indicating that the disease is seen mostly in the third and fourth decade of life (Table 2).

Table 2: Age Distribution Of Study Patients

Age in years	No of patients	Percentage %
21-30	10	20.84
31-40	21	43.75
41-50	13	27.08
51-60	3	6.25
61-70	1	2.08

Majority of the patients in our study were IT professionals (33.34%), followed by those in medical field (29.16%) and businessmen (14.59%). [Table 3]

Table 3: Occupational Distribution Of Study Patients

Occupation	No. of patients	Percentage %
Students	5	10.42
Teachers	4	8.33
Businessmen	7	14.59
Medical Professionals	14	29.16
IT Professionals	16	33.34
Farmers/Labourers	2	4.16

On studying the presence of any identifiable risk factors, majority of the cases were found to be idiopathic (43.75%), followed by presence of stress (29.17%). [Table 4]

Table 4: Identifiable Risk Factors In Study Patients

Risk Factors	No. of patients	Percentage %
Idiopathic	21	43.75
Emotional stress	14	29.17
Sleep deprivation	5	10.42
Hypertension	6	12.5
Steroid use	1	2.08
Pregnancy	1	2.08

The visual acuity in most eyes (34%) at the time of presentation was 6/12, followed by 6/18 (20%). Only 2 eyes (4%) had a visual acuity of 6/60 or less (Table 5).

Table 5: Visual Acuity At Initial Presentation Among Study Eyes

VA	No. of eyes	Percentage
6/6P-6/6	2	4
6/9P-6/9	6	12
6/12	17	34
6/18	10	20
6/24	8	16
6/36	5	10
6/60 or less	2	4

Visual acuity of 6/6P-6/6 improved from 2 eyes (4%) at initial presentation to 26 eyes (52%) at 3rd month follow up and 34 eyes (68%) at 6th month follow up (Table 6).

Table 6: Visual Acuity Of The Study Eyes At 3rd Month And 6th Month Follow Up

VA	3 rd Month		6 th Month	
	No. of eyes	%	No. of eyes	%
6/6P-6/6	26	52	34	68
6/9P-6/9	14	28	9	18
6/12	4	8	2	4
6/18	3	6	1	2
6/24	2	4	2	4
6/36	2	4	1	2
6/60 or less	1	2	1	2

DISCUSSION:

Our study included 50 eyes of 48 patients, out of which 39 were males and only 9 were females, indicating the male female ratio was 4:1, which correlated with a study conducted by Sahoo NK et al,¹¹ which consisted of 2780 patients out of which 2447 were males while 333 were females. In our study 46 patients had unilateral CSR while only 2 had bilateral condition. This was in accordance with most of the studies like Sahoo NK et al¹¹ were 73% patients had unilateral CSR.

Majority of the patients in our study were of the age group of 31-40 years (43.75%), followed by 41-50 years (27.08%). This again was in agreement with a study conducted by Kalita IR et al,¹² where most of the patients (40%) were included in the age group of 30-39 years indicating that the disease mostly occurs in the third and fourth decade of life. Most of the patients in our study belonged to the IT industry (33.34%) followed by medical field (29.16%). The risk factors that could be identified in our study included emotional stress (29.17%), hypertension (12%) while in 43.75% patients the disease was reported to be idiopathic. In a study conducted by Islam QU et al¹³, Known systemic risk factors for CSCR were present in 36 (85.71%) patients with emotional stress/psychiatric disorder 15 (35.71%), Type A personality 11 (26.19%), smoking 10 (19.04%), hypertension 5 (11.90%), and acid peptic disease 4 (9.52%) were the most frequently found risk factors. Similarly in a study conducted by Haimovici R et al¹⁴, systemic steroid use and pregnancy were strongly associated with CSCR. Additional risk factors identified by this study include antibiotic use, alcohol use, untreated hypertension, and allergic respiratory disease. The visual acuity at initial presentation for most of the patients was good with Snellen's acuity of 6/12 in 34%, 6/18 in 20% and only 4% had a visual acuity of 6/60 or less. The visual acuity improved in most of the patients at the follow up at 3 months and 6 months with 52% having 6/6P-6/6 at 3 months and 68% at 6 months, similarly patients having 6/9P-6/9 at 3 months follow up was 28% and 18% at 6 months, while only 1 patient had a visual acuity of 6/60 or less at the end of 6 months. Visual prognosis in acute CSR is usually favorable with complete recovery in most of the cases after first episode. However, presenting VA and presence of risk factors may affect the visual outcome. Promising visual results were reported in various international studies with baseline log MAR BCVA ranging from 0.21 -0.40 that had improved to final Log MAR BCVA in the range of 0.00-0.14.¹⁵⁻²⁰ Wong et al.²¹ found that acute CSR that resolved spontaneously or following treatment had a good long term prognosis for visual functions.

The limitations of this study could be smaller sample size, shorter duration of follow up and relatively other characteristics on OCT and FFA that could give better understanding of the disease.

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