CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

http://doi.org/10.5281/zenodo.3525148

Available online at: http://www.iajps.com Research Article

ANALYSIS OF ROLE OF ORAL RIFAMPICIN IN CHRONIC CENTRAL SEROUS CHORIORETINOPATHY AMONG LOCAL POPULATION OF PAKISTAN

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Abstract:

Introduction: *Central serous chorioretinopathy (CSCR) is characterized by macular serous retinal and/or retinal pigment epithelium (RPE) detachment. It is most common in men aged 30 to 50 years.* ***Aims and objectives:*** *The main objective of the study is to analyze the role of oral rimpampicin in chronic central serous chorioretinopathy among local population of Pakistan.* ***Material and methods:*** *This descriptive study was conducted in Rural Health Center Mureedwala, Samundari District Faisalabad during January 2019 to July 2019. The data were collected from seven patients with age range 30 to 50 years. The diagnosis of chronic CSCR was based on the presence of SRF >3 months duration with/without diffuse retinal pigment epithelial (DRPE) changes. Patients with evidence of serous elevations secondary to other ocular conditions such as optic disc pit, multifocal choroiditis, posterior scleritis, choroidal mass or associated systemic illnesses were excluded from the study.* ***Results:*** *The data were collected from seven patients with mean age range 35.22±5.22 years. Mean best corrected visual acuity (BCVA) was 0.56± 0.116 with a range of 0.00 to 0.77 before starting the treatment while after treatment at 04 weeks visual acuity was of 0.147± 0.148. The mean CMT at the time of presentation was 494.39±96.2 um while it was 306.90 after 04 weeks of starting half dose (300 mg daily) Rifampicin. The mean induced reduction in CMT was 187.48±122 um while that in BCVA was 0.41± 0.16.* ***Conclusion:*** *It is concluded that oral rifampicin to be an effective and affordable therapy for eyes with chronic CSCR. In eyes with extensive RPE damage, rifampicin is not very effective in causing resorption of SRF and improvement in vision.*

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Please cite this article in press Maryam Abdul Ghaffar et al., ***Analysis Of Role Of Oral Rifampicin In Chronic Central Serous Chorioretinopathy Among Local Population Of Pakistan.,*** *Indo Am. J. P. Sci, 2019; 06(10).*

INTRODUCTION:

Central serous chorioretinopathy (CSCR) is characterized by macular serous retinal and/or retinal pigment epithelium (RPE) detachment. It is most common in men aged 30 to 50 years. Most clinical studies have classified CSCR into acute and chronic forms based on the duration of subretinal fluid (SRF) accumulation[1]. Also, presence of retinal pigment epithelial changes on clinical examination also suggests chronicity. Multiple treatment modalities have been described for chronic CSCR, including focal laser, photodynamic therapy (PDT), rifampicin, and even anti-VEGF therapy[2]. In some patients, focal laser is contraindicated due to proximity of leaking spots to the fovea. Although PDT has been found to be effective, it is unavailable and not affordable to patients in many developing countries. Rifampicin has been described in anecdotal reports as an alternative treatment option due to its effect on serum cortisol and low cost[3].

Patients of CSCR usually present with mild deterioration of central vision, metamorphosis, scotoma and/or induced hypermetropia secondary to central macular elevation. The exact mechanism involved in the etiology and evolution of CSCR remains unclear, however various risk factors have been associated with its development[4]. Studies have shown the association of psychological stress, type A personality, endogenous/exogenous steroids, respiratory tract infection with elicobacter pylori, pregnancy and untreated hypertension with CSCR[5]. Although diagnosis of CSCR is made by clinical examination, various investigation modalities such as Optical coherence tomography (OCT), and fundus fluorescein angiography (FFA) are used to confirm the diagnosis and monitor the disease[6].

Aims and objectives

The main objective of the study is to analyze the role of oral rifampicin in chronic central serous chorioretinopathy among local population of Pakistan.

MATERIAL AND METHODS:

This descriptive study was conducted in Rural Health Center Mureedwala, Samundari District Faisalabad during January 2019 to July 2019. The data were collected from seven patients with age range 30 to 50 years. The diagnosis of chronic CSCR was based on the presence of SRF >3 months duration with/without diffuse retinal pigment epithelial (DRPE) changes. Patients with evidence of serous elevations secondary to other ocular conditions such as optic disc pit, multifocal choroiditis, posterior scleritis, choroidal mass or associated systemic illnesses were excluded from the study. Patients were started with an oral 300 mg daily dose of Rifampicin for 3 months. Patients were reviewed at 4 weeks, 8 weeks, and 4 months for detailed ocular and systemic examination as well as measurement of central macular thickness by OCT.

Statistical analysis

All the data were collected and anylyzed using SPSS (version 21.0). Continuous data such as Age, BCVA, CMT were described in terms of mean ± SD (standard deviation).

RESULTS:

The data were collected from seven patients with mean age range 35.22±5.22 years. Mean best corrected visual acuity (BCVA) was 0.56± 0.116 with a range of 0.00 to 0.77 before starting the treatment while after treatment at 04 weeks visual acuity was of 0.147± 0.148. The mean CMT at the time of presentation was 494.39±96.2 um while it was 306.90 after 04 weeks of starting half dose (300 mg daily) Rifampicin. The mean induced reduction in CMT was 187.48±122 um while that in BCVA was 0.41± 0.16.

Table 01: Mean, standard deviation and induced change of BCVA and CMT before and after treatment at 04 weeks.

	Mean ± SD	***P - value***
Pre-treatment BCVA	0.56 ± 0.11	P < 0.001
Pre-treatment CMT	494.39 ± 96.29	P < 0.001
Post-treatment BCVA	0.47 ± 0.14	P < 0.001
Post-treatment CMT	306.90 ± 50.71	P < 0.001
Induced Change in BCVA at 04 weeks	0.41 ± 0.16	P = 0.001
Induced change in CMT at 04 weeks	187.48 ± 122.01	P = 0.001

DISCUSSION:

Rifampicin is an inexpensive, anti-tubercular drug and readily available in the developing world. It is a cytochrome P4503A4 enzyme inducer which increases the metabolism of endogenous corticosteroids and thereby reduces their levels in the serum, helping in the faster SRF resolution[8]. In a study by Shulman and colleagues, 12 patients (with 14 involved eyes) were treated with oral rifampicin 300 mg twice daily. There was a significant reduction in SRF at the end of 3 months and complete resolution of SRF in six (42.8%) eyes. However, this study did not categorize fluorescein findings (type of leak) and had a short follow-up. The current series has the advantage of having long follow-up duration and characterized fluorescein findings that prove to be clinically relevant[9]. Three of the four eyes with complete resolution of SRF had focal leaks on FA. Four of the five eyes in the DRPE group did not achieve complete SRF resorption at month[10].

CONCLUSION:

It is concluded that oral rifampicin to be an effective and affordable therapy for eyes with chronic CSCR. In eyes with extensive RPE damage, rifampicin is not very effective in causing resorption of SRF and improvement in vision.

REFERENCES:

1. Steinle NC, Gupta N, Yuan A, et al. Oral rifampin utilisation for the treatment of chronic multifocal central serous retinopathy. Br J Ophthalmol 2012; 96: 10–13.
2. Ravage ZB, Packo KH, Creticos CM, et al. Chronic central serous chorioretinopathy responsive to rifampin. Retina Cases Brief Rep 2012; 6: 129–132.
3. Lim SJ, Roh MI, Kwon OW. Intravitreal bevacizumab injection for central serous chorioretinopathy. Retina 2010; 30: 100–106.
4. Baran NV, Gurlu VP, Esgin H. Long-term macular function in eyes with central serous chorioretinopathy. Clin Experiment Ophthalmol 2005; 33: 369–372.
5. Chan WM, Lai TY, Lai RY, et al. Half-dose verteporfin photodynamic therapy for acute central serous chorioretinopathy: one-year results of a randomized controlled trial. Ophthalmology 2008; 115: 1756–1765.
6. Garg SP, Dada T, Talwar D, et al. Endogenous cortisol profile in patients with central serous chorioretinopathy. Br J Ophthalmol 1997; 81: 962–964.
7. Shulman S, Goldenberg D, Schwartz R, et al. Oral rifampin treatment for longstanding chronic central serous chorioretinopathy. Graefes Arch Clin Exp Ophthalmol 2016; 254: 115–122.
8. Nelson J, Saggau DD, Nielsen JS. Rifampin induced hepatotoxicity during treatment for chronic central serous chorioretinopathy. Retina Cases Brief Rep 2014; 8: 70–72.
9. Shulman S, Goldenberg D, Schwartz R. Oral Rifampin treatment for longstanding chronic central serous chorioretinopathy. Graefes Arch Clin Exp Ophthalmol. 2016;254(1):15–22.
10. Wu ZR, Bai ZT, Sun Protective effects of the bioactive natural product N-trans-Caffeoyldopamine on hepatotoxicity induced by isoniazid and rifampicin. Bioorg Med Chem Lett. 2015;25(22):5424–5426.