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Effect of Sadhyovirechana in Occular Hpertension: A Pilot Study

Arun Das[1], Arunkumar Bapurao Biradar[2], Pratibha Prakash[3]

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Abstract

Introduction: Normal Intra Ocular Pressure ranges from 14 – 21 mm of Hg Ocular Hypertension is an asymptomatic condition with raised Intra Ocular Pressure without any visual impairment or comorbidities. Altered Intra Ocular Pressure above/below normal level with associated reduced peripheral vision & optic neuropathy are referred to as glaucoma. OHT population is at greater risk of developing glaucoma. They remain unnoticed and undiagnosed most of the time for a longer duration or advancement of the condition. Early diagnosis and timely management prevent the progression of the disease to Primary Open Angle Glaucoma and other conditions considering this scenario, Sadyovirechana with Avipattikara Churna was tried in a group of patients to evaluate its effect over IOP.

Materials & Methods: 300 patients were screened from the eye Out Patient Department of institute. 10 Patients fulfilled the inclusion criteria were enrolled and analysed for results. Avipattikara Churna was administered orally and the efficacy was analysed for results. The assessment of Intra Ocular Pressure was done with the help of Goldman's Applanation Tonometry.

Results: For statistical analysis t test was used. Within the group, there was a significant reduction of Intra Ocular Pressure with a p-value <0.0001.

Conclusion: There was significant reduction in the values of Intra Ocular Pressure and a nearly normal value was achieved as target Intra Ocular Pressure.

Keywords: Inra-ocular Hydrops; Intra Ocular Pressure; Ocular Hypertension; Sadyovirechana; Avipattikara Churna.

INTRODUCTION

Shalakyatantra is one among the Ashtangas of Ayurveda which deals with disease above the clavicle.[1] Intra-ocular Hydrops or Ocular Hypertension is a condition in which there is raised Intra Ocular Pressure above 21mm of Hg without any presenting ocular symptoms.[2] Glaucoma refers to visual field defect with glaucomatous optic atrophy and invariably Intra Ocular Pressure.[3]

The estimated prevalence of ocular hypertension ranges between 2.7 to 3.8%. Ocular Hyper Tension increases with age, from 1.7 to 2.7% in the age group of 40 to 49 years, 2.7 to 4.6% in the 50 to 59 years range, to 4.1 to 7.5% in people older

Author Affiliation: [1]Consulting, Shalakyatantra Specialist Gurusmaraka Vaidyashala, Pampady 688524, Kottayam, Kerala, India, [2]Associate Professor, Department of Shalakyatantra, Kaher's Shri BMK Ayurveda Mahavidyalaya, Shahpur, Belagavi 590003, Karnataka, India, [3]Assistant Professor, Department of Shalakyatantra, Mangalayatan Ayurveda Medical College, Mangalayatan 202146, Uttar pradesh, India.

Corresponding Author: Arunkumar Bapurao Biradar, Associate professor, Department of Shalakyatantra, Kaher's Shri BMK Ayurveda Mahavidyalaya, Shahpur, Belagavi 590003, Karnataka, India

E-mail: arunkumar.biradar@gmail.com

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than 80 years.[4] It was demonstrated that the rate of untreated Ocular Hyper Tension patients in developing glaucoma was 9.5% in 5 years and 22% at 13 years, or about 2 percent per year. With treatment, the risk of developing glaucoma was reduced by about 50 percent. Thus, Ocular Hyper Tension if not managed effectively may lead to Primary Open Angle Glaucoma which may lead to further complications of glaucoma.

Thus, early diagnosis and effective management of the condition are of prime importance. In contemporary science, the treatment advised for Ocular Hyper Tension is similar to that of Primary Open Angle Glaucoma, i.e. usage of Anti-glaucoma medication in the prescribed dose so that the Intra Ocular Pressure remains controlled.[5] The only draw back of anti-glaucoma medications is that they are lifetime medications without much benefit in preventing irreversible visual damage. Studies have stated that there are significant changes in conjunctival structures and tear film as the result of prolonged usage of these medications.[6]

Since there is no directly co-relating disease explained in the classics based on the Dosha and Dushya mimicking disorder Vataja Adhimantha is being considered.

Looking into the above facts there is a need for a treatment modality that can effectively reduce the Intra Ocular Pressure and reduce the risk of being affected with Primary Open Angle Glaucoma.

All classical text books have explained various treatment modalities for Vataja Adhimantha like Snaihika Nasya, Virechana, Seka, Anjana, Pindi, Bidalaka, Aschyotana, etc. In the contemporary science diuretics are used as an immediate remedy for reducing IOP by the mechanism of fluid loss. Hence the patients were given with Sadhyovirechana to study its efficacy.

For Sadyovirechana Avipattikara Churna was administered.[7]

During the duration of the study, the patients were assessed based on pre and post-treatment with pre-designed research profiles. The diurnal variation of IOP was calculated every 4th hourly and the mean IOP was considered as BT and then IOP was measured after the cessation of Vega and data was collected as post treatment AT.

MATERIALS AND METHODS

Study Design

A pilot study was planned with cases of age group 30 to 70 years irrespective of their gender, religion, occupation, etc fulfilling the clinical criteria for diagnosis of Intra-Ocular Hydrops were selected. Cases were taken from the Out Patient Department and In Patient Department section of the hospital.

Method of data collection:

Subjects diagnosed with Raised Intra Ocular Pressure which are fitting into the inclusion criteria were enrolled in the study.

Diagnostic Criteria

Increased Intra Ocular Pressure noticed during routine investigations.

Inclusion Criteria

- Intra Ocular Pressure between 22 to 30 mm of Hg (Asymptomatic cases but noticed raised Intra Ocular Pressure during routine ophthalmic investigations).
- Age group 30 to 70 years.
- Irrespective of gender, occupation.
- Controlled systemic ailments like DM & HTN.
- Known cases of Primary Open Angle Glaucoma with existing standard anti-glaucoma medication with Timolol Maleate 0.5%.

Exclusion Criteria

- Acute angle closure glaucoma.
- Intra Ocular Pressure ranging above 30mm of Hg.
- Un-controlled systemic disorders like DM, HTN, COPD, Renal pathologies.
- End stage/advanced glaucomatous optic neuropathy with severe visual morbidity.

Assessment Criteria

Applanation Tonometry[8]

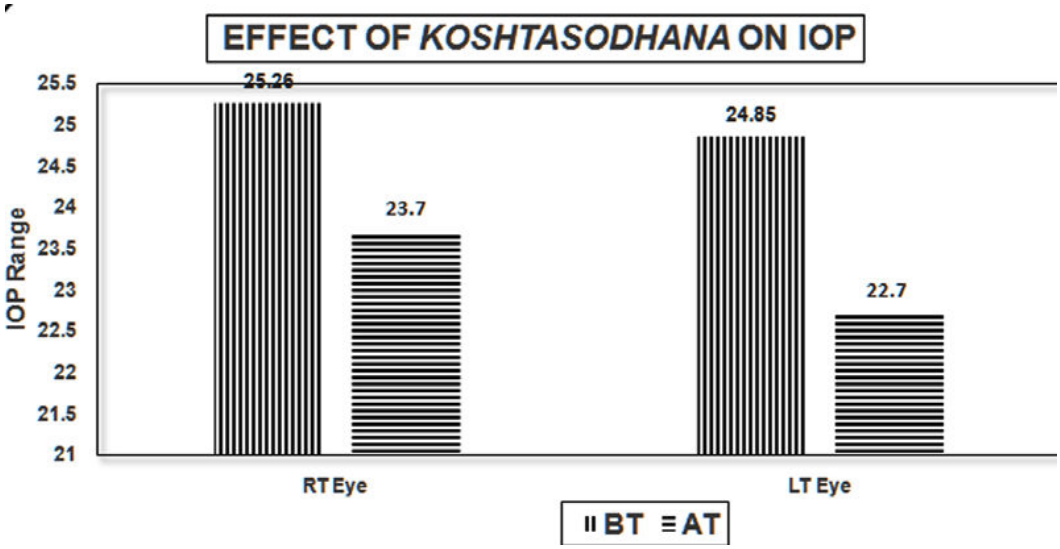
RESULTS

Table 1: Comparison of before and after treatment effect of Sadyovirechana

	Times	Mean	SD	Mean Diff.	SD Diff.	% of change	t-value	p-value
IOP RE	BT	25.26	1.64					
	AT	23.70	1.89	1.56	0.77	6.16	6.3900	0.0001*
IOP LE	BT	24.85	1.59					
	AT	23.70	2.06	1.15	0.90	4.64	4.0475	0.0029*

t test was used to analyse the results

Table shows the effect of Koshtashodhana over IOP in group A. The mean IOP of right eye was 25.26 and left eye was 24.85 respectively. After Koshtashodhana there was 6.16% of change in mean IOP value to 23.70 with t value 6.3900 and p value 0.0001 in right eye and 4.64% of change



Graph 1: Comparison of before and after treatment effect of Koshtashodhana over IOP in right and left eye

in mean IOP value of left eye to 23.70 with t value 4.0475 and p value 0.0029 in left eye. This shows there is statistically significant reduction of IOP values after Koshtashodhana with $p < 0.05$.

DISCUSSION

Probable Mode of Action of Avipattikara Churna

Since there is no reference in classical text book about pathophysiology of Adhimantha. However Samanya Netra Roga Samprapti was considered for postulating patho-physiology of POAG and considered Sangha as type of Srotodushti resulting in poor drainage of Aqueous. Obstruction occurs because of circumciliary vascular spasm. Spasm reduces the lumen which may be considered as Kaphavruta Vata Dushti. Hence Sangha and Vata Dushti was considered as prime components in Samprapti.

Ingredients of Avipattikara have multiple actions like Deepana, Paachana, Anulomana, Koshta Shodhana, Agni Samvardhana, Prasadana, Vaatanulomana, Aamapaachana, etc. which helps in Doshavilayana and Srothovisodhana. Anulomana action cleanses the Sanchit Mala and vitiated Vaata at its Sthaana i.e. Pakwashaya, thus might control, the action of vitiated Vaata else where in the body.[9] Avipattikara drug hasnectareous action over vitiated Pitta and Rakta. This might controls over the derangement of Sthaanika Dosha in Netra i.e. Alochaka Pitta. Fluid loss during Koshta Shodhana action might contribute to reducing Intra Ocular Pressure momentarily, just like the action of systemic action of Acetazolamide, Mannitol, etc.[10]

CONCLUSION

Sadhyovirechana was effective in reducing the Intra Ocular Pressure but was not able to reduce the Intra Ocular Pressure to the normal range.

Informed consent statement

Written informed consent was obtained from all subjects involved in the study for their participation and publication of data without revealing their identity.

REFERENCES

1. Sushruta. *Samhitha, Sutrasthana, Vedotpatti Adhyaya,* 1/7. Available from https://niimh.nic.in/ebooks/esushruta (Accessed on 1 August 2022).
2. A K Khurana. Comprehensive ophthalmology, 7 ed chapter 10. : *New Delhi Jaypee publication;* 2019 p 232.
3. A K Khurana. Comprehensive ophthalmology, 7 ed chapter 10.: *New Delhi Jaypee publication;* 2019 p 235.
4. Saboo US, Amparo F, Shikari H, Dana R. Prevalence of ocular hypertension and glaucoma in patients with chronic ocular

graft-versus-host disease. *Graefes Arch Clin Exp Ophthalmol.* 2016;254(5):923-928.

5. A K Khurana. Comprehensive ophthalmology, 7 ed chapter 10.: *New Delhi Jaypee publication*; 2019 p 238.
6. Inoue, Kenji. "Managing adverse effects of glaucoma medications." *Clinical ophthalmology (Auckland, N.Z.)* vol. 8 903-13. 12 May. 2014.
7. Yadunandana Upadhyaya, editor. Astanga Hridya. Varanasi: *Chaukhambha Prakashan. Kalpasthana, chapter 2, verse* 21-23 Pg no 146.
8. A K Khurana. Comprehensive ophthalmology, 7 ed. chapter 23.: *New Delhi Jaypee publication;* 2019 p 511.
9. Bhaisajya Ratnavali by Govinda Das Bhisagratna Edited with English Commentary Dr Kanchiv Lochan:sText in Sanskrit with English Translation chapter 56 Verse no 25 - 29 1 ed. : *Varanasi, chaukhamba orientalia;* 2019. Page no 323.
10. Sherwin, Justin & Kokavec, Jan & Thornton, Simon. (2015). Hydration, fluid regulation and the eye: In health and disease. *Clin Experiment Ophthalmol.* 43. 10.1111/ceo.12546.