

A PERSPECTIVE OF *IRSALE ALAQ* (HIRUDO THERAPY) ON *MAA E AKSAR*  
(GLAUCOMA): A SCIENTIFIC REVIEWShifra ASF\*<sup>1</sup> and Ayshah Fazeenah AH<sup>2</sup><sup>1</sup>Community Medical Officer, Free Ayurvedic Dispensary, Musali, Mannar.<sup>2</sup>Senior lecturer, Institute of Indigenous Medicine, University of Colombo, Sri Lanka.

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## ABSTRACT

*Maa e aksar* (glaucoma) is caused by either increased production or reduced absorption of *rutubat* (fluid) makes an accumulation inside the eye ball produces tension (*tanao*) and constructs the eyeball hard. It results in *zoa'fe basar* (weakness of vision) and *maidan e basarat* (narrowing of visual field). This condition is equalize to Glaucoma in modern medicine and is defined as a group of conditions characterised by typical changes to the retinal nerve fibres and optic nerve head resulting in reduced visual field, progressive and irreversible vision loss. Its enormous social and economic impact can be acceptable by the fact that it remains as the second leading cause of blindness globally, after cataracts. In 2013, the number of people aged 40-80 years with glaucoma worldwide was estimated to be 64.3 million, increasing to 76.0 million in 2020 and 111.8 million in 2040. Generally the patients with glaucoma complaints like needing more light, blurred vision, seeing glare, difficulty seeing objects off to both sides, letters appearing faded when reading, difficulty seeing objects off to left side or right side, seeing too much light, area(s) darker or missing, seeing as if looking through dirty glasses and seeing as if looking through clouds. The treatment is in contrast to nature and *Mizaj* (temperament) of the disease. Therefore, this system promises that to remove the root cause is the main treatment modality. Despite the use of numerous newer therapeutic regimens, it has remained confront because of waning of the sensitive part of the eye. The holistic approach of Unani treatment will have a thriving management of diseases with temperamental affiliation and its evidences were found throughout the history that *Irsal e Alaq* has proven efficacy in *Maa e aksar*, but lacking scientific data for validation. The present literary review was compiled from Unani classical texts, electronic databases of Google scholar, PubMed and through web search. This review aims at highlighting the concept of glaucoma with special reference of *Maa e aksar* and its management through *Irsal e Alaq*.

**KEYWORDS:** *Maa e aksar*; hirudo therapy; Mizaj.

## INTRODUCTION

The Unani System of Medicine is based on the concept of balancing body humours (Tanzeel Ahmad. 2009). The majority of the diseases are caused by the endogenous factors by excessive accumulation of food stuff, blood and superfluous or morbid humours, the metabolic products NAL (Tanzeel Ahmad .2009). Such a way, *Maa e aksar* (glaucoma) is a condition caused by either increased production or reduced absorption of fluid makes an accumulation inside the eyeball produces tension and constructs the eyeball hard. It results in weakness of vision and narrowing of visual field (Razi MIZ. 2010). This condition is equalized to Glaucoma in modern medicine and is defined as a group of conditions characterised by typical changes to the retinal nerve fibres and optic nerve head resulting in reduced visual field, progressive and irreversible vision loss. (Thomas Kersey. 2013). Its enormous social and economic impact

can be acceptable by the fact that it remains as the leading cause of blindness globally (Thomas Kersey .2013). In 2013, the number of people aged 40-80 years with glaucoma worldwide was estimated to be 64.3 million, increasing to 76.0 million in 2020 and 111.8 million in 2040 (Yih-Chung Tham .2014). Generally the patients with glaucoma complaints like needing more light, blurred vision, seeing glare, difficulty seeing objects off to both sides, letters appearing faded when reading, difficulty seeing objects off to left side or right side, seeing too much light, area(s) darker or missing, seeing as if looking through dirty glasses and seeing as if looking through clouds. (Cindy X. Hu. 2014). According to modern medical system, though there are lots of newer and highly advanced management modalities available to manage glaucoma, most of them cause several side effects (Inoue K .2014). But the holistic approach of Unani treatment will have a thriving management of

diseases with temperamental affiliation and this system promises that to remove the root cause is the main treatment modality. (Ayshah Fazeenah. 2015).

In the classical Unani texts, *Maa e aksar* is explained to be treated by *Ilaj bil dawa* (pharmacotherapy) and *ilaj bil tadbeer* (regimenal therapy) which includes *Irsal e Alaq* (hirudo/ leech therapy), *fasd* (venesection) and *hijamah* (cupping) (Razi MIZ .2010). Leech therapy has remained the part of various systems of medicine including Unani system through the centuries. It is one of the most important and widely practiced methods used for local evacuation of morbid (invalidated and waste) matter with the use of medicinal leech (Azad Hussain Lone .2011). It is known from the time of extreme antiquity and is still alive (Swaid Abdullah .2012). Its major therapeutic benefits are not only due to blood sucked during the biting, but also from the various bioactive substances, such as Hirudin, calin, Hyaluronidase, and Histamine-like substances, to name a few (Swaid Abdullah .2012). Its evidences were found throughout the history that *Irsal e Alaq* has proven efficacy in *Maa e aksar*, but lacking

scientific data for validation. This review aims at highlighting the concept of glaucoma with special reference of *Maa e aksar* and its management through *Irsal e Alaq*.

#### METHODOLOGY

A systematic literature search was done to identify articles and to gather the information available in the literature regarding efficacy of hirudotherapy on glaucoma. All the available information regarding glaucoma were compiled from Unani classical texts, electronic databases of Google scholar, PubMed and through web search.

#### RESULTS AND DISCUSSIONS

A total of forty articles were taken from the thorough literature search which met the criteria for inclusion of 'efficacy of hirudotherapy on glaucoma' and 38 studies were evaluated for this review. A total of 14 studies showed the effectiveness of hirudotherapy on eye disorders especially glaucoma. The results of an organized literature review as follows (Table 1).

**Table 1: Summary of literature reviews.**

| Results  | References                        |
|--|-----------------------------------|
| <ul style="list-style-type: none"> <li><i>Jalaukavacharan</i> (Hirudotherapy) is useful in following <i>Netraroga</i>: <i>Abhishyanda</i> (Conjunctivitis), <i>Adhimantha</i> (glaucoma), <i>Siraharsha</i> (inflammation), <i>Sirotpat</i> (hyperemia), <i>Puyalasa</i> (dacrocystitis), <i>Vatparyay</i> (ocular pain), <i>Anyatovat</i> (ocular pain), <i>Sash of Akshipak</i> (purulent Conjunctivitis), <i>Ashof Akshipak</i> (Conjunctivitis).</li> <li>Leech therapy facilitates drainage of aqueous humor through the trabecular meshwork .As the leech sucks peripheral blood it creates negative pressure in the vein present locally and facilitates drainage.</li> </ul> | Sumedha J Pundge et al, 2015.     |
| <ul style="list-style-type: none"> <li>Leech therapy is effectively used to manage Eye diseases, including cataracts, glaucoma, traumatic injuries and inflammation.</li> </ul>  | Bhriku Kumar Das, 2014.           |
| <ul style="list-style-type: none"> <li><i>Jalaukavacharan</i> can be used to treat <i>Netraroga</i> (Eye diseases).</li> </ul>   | Amit Vaibhav et al, 2016.         |
| <ul style="list-style-type: none"> <li>Hirudo therapy has been used by Ophthalmologists in inflammatory and traumatic processes such as Keratitis, Periorbital Hematoma, Sub retinal hemorrhage, Glaucoma and Cataract.</li> </ul>   | Shikha Nayak et al, 2015.         |
| <ul style="list-style-type: none"> <li>Before the medical and pharmacological advances that followed World War II, bloodletting by leeches was even reported to be an effective way of treating acute congestive glaucoma.</li> </ul>  | Yueh-Chang Lee et al, 2015.       |
| <ul style="list-style-type: none"> <li>Leech therapy is the means of elimination of blood and morbid matter where the viscid nature of morbid matter makes impossible to extravasate excess morbid matter from vessels resulting in congestion of vessels (<i>Imtila-e-Urooq</i>) and dilation of veins.</li> </ul>  | Mohammad Shahid Khan et al, 2015. |
| <ul style="list-style-type: none"> <li>Leech therapy is one of the most important and widely practiced methods of regimental therapy, used for local evacuation of morbid humour in Unani system of Medicine.</li> <li>Physical effects of bloodletting may cause relief due to elimination/dilution of various substances and the elimination reduces the congestion.</li> </ul>  | Mohd Fasial et al, 2016.          |
| <ul style="list-style-type: none"> <li>Leech therapy can be safely and effectively used to evacuate the blood and morbid humours and in the conditions causing <i>imtila</i> (congestion).</li> </ul>  | Tanzeel ahmad et al, 2009.        |
| <ul style="list-style-type: none"> <li>The Unani physicians of medieval period indicated leech therapy in almost every field of medicine like Dermatology, Ophthalmology, Gynaecology, Synosteology, Phlebology and Neurology</li> </ul>   | Nazim Saifi et al, 2016.          |
| <ul style="list-style-type: none"> <li>In Unani System of Medicine, the bad humors which get accumulated in any parts of the body need to be removed by various methods like leeching.</li> </ul>  | Younis munshi et al, 2008.        |

|   |                                      |
|---|--------------------------------------|
| • Leech therapy has been practised to treat several ophthalmic conditions.  |                                      |
| • All diseases resulted from an excess build up of blood and alleviation of this condition required heavy leeching and starvation.                    | Whitaker IS <i>et al</i> , 2004.     |
| • Currently leeches may be used to assist in the treatment of abscesses, arthritis, glaucoma, myasthenia gravis, thrombosis and some venous disorders | Singh AP, 2009.                      |
| • In the middle ages, leech therapy was indicated for wide range of disorders including eye illnesses.  | Abdual kader AM <i>et al</i> , 2013. |

## CONCLUSION

It can be concluded that *Maa e aksar* is multifactorial disease, but most commonly due to alteration of humours either quantitatively or qualitatively. No drug is available to completely cure the glaucoma. All newly available drugs are used for their long term benefits, continuous use to reduce intra ocular tension and neuroprotective drugs always lead to number of hazardous side effects. Hirudotherapy possibly will be much more favourable in the cure of glaucoma by its bioactive constituents possess anti-inflammatory, anticoagulant, anaesthetic, vasodilator, antibiotic and antioxidant properties through multiple mechanisms. Unfortunately, most of the bioactive ingredients are still unexplored and there is only limited knowledge of mechanisms of action present in Leech Saliva. Hence, extensive studies are required to find out the exact mechanisms of action in treating *Maa e Aksar*. Therefore, more efforts and clinical trials are required to assess the efficacy and safety in the management of glaucoma.

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