

# Management of Cataract with Ayurveda Treatment Modality; a Comparative Clinical Study

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**Abstract-** The comparative clinical study was designed to evaluate the effect of *Anjanavarti* in the management of Cataract in comparison with *Virecanakarma*. Thirty patients were selected, suffering from Cataract and randomly divided in to two groups as group A and B. For the group A *Anjanavarti* was applied after the *Virecana karma* for a period of thirty days. For the group B *Anjanavarti* was applied for a period of thirty days. After the *Anjanavarti* treatment in group A, visual acuity was tested by using Wilcoxon Signed Ranks test. It was significant (0.001) in 0.05 levels which can be concluded that there was considerable effect after the treatment of *Anjanavarti* followed by *Virecanakarma*. Group B also significant (0.001) in 0.05 level. Therefore, it was concluded that there was a therapeutic effect of *Anjanavarti* in individual application. While group A and B were compared using Mann-Whitney U test, which elaborated two groups were not identical to each other with respect to visual acuity at after the treatment. According to the mean rank and sum of ranks between two groups after treatments, it can be clearly identified that mean rank of group A is less than group B, which means that the treatment effect of Visual Acuity in group A is better than group B while considering the results after the *Virecana karma* p value of total cholesterol (0.132), LDL cholesterol (0.145), TGL cholesterol (0.147) and HDL cholesterol (Based on positive ranks ) (0.176) were not significant in 0.05 level.

**Index Terms-** Cataract, *Anjanavarti*, *Virechana karma*, Cholesterol

## I. INTRODUCTION

**CT** Cataract, defined by the World Health Organization (WHO) as a Visual Acuity (VA) of less than 3/60 in the better eye, is the leading cause of blindness in the world, while cataracts can be surgically detached, being a surgical process patients discourage in attending treatment procedure. Globally cataract is also a key root of low vision [1], as well a leading cause of visual impairment, other than uncorrected refractive errors and the greatest cause of preventable blindness globally [2]. Aging process is a key etiological factor of cataract [3]. Additionally cataract is much common in diabetes where superoxide in the mitochondria is elevated as a result of hyperglycemia [4]. Opacity over lens of eye is a direct result of oxidative stress. Global warming and ozone depletion also increase exposure to ultraviolet radiation which leads to a greater incidence of cataracts [5]. Some

medications likewise corticosteroids, Psoralens, Chlorpromazine and some glaucoma medications affect in cataract [6-7]. Addiction to alcohol or substance uses while pregnancy leads to infants born with cataract, as well as congenital cataract is common in 1:10,000 ratios [8].

In Sri Lanka, among 22 million populations around 200,000 people are believed to be blind as well 400,000 people are suffering from low vision. Majority of them have been affected with cataract [9]. Hence, introducing a cost effective treatment modality in spite of surgery to manage cataract is much advantageous in existing era.

Ancient Ayurveda literature elaborate that the cataract is almost equal to the '*kacha*' when premature cataract (*Timira*) leads to mature cataract (*kacha*) due to unavailability of treatments at the early stage. Furthermore, untreated *kacha* generates '*kapaja linganasha*' and cause blindness [10].

Instead surgical process, some treatment protocols for cataract has been instructed in authentic Ayurveda literature '*Susruta Samihita*'. Among several modalities, application of '*Anjana*' (collyrium) is mentioned there as an effective measure of correction [11]. Ola leave manuscripts inherited to Indigenous system of medicine in Sri Lanka consists with multiple time tested recipes with effective clinical experience among practitioners. Therefore, the current study was based on an indigenous recipe of *Anjana* referred from an ola leave manuscript.

Efficacy and effect of application *Anjanavarti* and application of *Anjanavarti* after the *Virechana karma* (therapeutic purgation) in the management of Cataract were evaluated in the study while the study prioritized in effect of *Virechana karma* on visual acuity, Total Cholesterol level (TCL), Triglycerides level (TGL), High Density Lipoprotein level (HDL) and Low Density Lipoprotein level (LDL).

The *Anjanavarti* is consisted with, dried fruit of *Terminalia chebula*, dried leaves of *Azadirachta indica*, dried legume of *Piper longum*, dried seeds of *Piper nigrum*, central part of the dried *Terminalia bellerica* nut, ash from purified conch (*Bhashma*) of *Turbinella rapa* and purified Bisulphate of arsenigrealar while powder of all the said ingredients should be ground with goats milk till reach to paste consistency. Thereafter the shape of the *varti* should be molded and let it to be dried up in sun light.

## II. METHODOLOGY

For the comparative clinical study, the study population was comprised with the patients attending to the eye clinic at Ayurveda