

## Role of *Lekhana Anjana* and *Abhyantara Oushadi* in the Management of *Kaphaja Kacha* w.s.r. to Senile Immature Cataract

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### Abstract

Vision 2020, by World Health Organization, has pointed out that cataract elimination is their primary goal because it is the major cause for preventable blindness. And surgical management is the treatment of choice in every diagnosed case of cataract. Authoritative textbooks of Ayurveda throw light on the importance of vision and various methods to keep it intact and measures for curing it. Considering the signs, symptoms and histological changes in the lens, different stages of senile cataract can be compared to *Kaphaja Timira*, *Kacha* and *Linganasha*, in which the main complaint is visual disturbances. Hence exact analysis of the patho-physiology of senile cataract is very essential to plan an accurate Ayurveda management. If succeeded theoretically and then clinically, this methodology may be recommended and introduced in National and International Levels of Vision 2020, whereby people worldwide can get sight through natural means. The problem of senile cataract blindness is very acute in India, contributing to 80% of total blindness. Hence the study was conducted to evaluate and compare the effect of *Manashiladi lekhana anjana* and internal medicine *Abhaya churna* in *Kaphaja Kacha*. The patients of *Kaphaja Kacha* were selected from OPD and IPD of Shalaky Tantra Department and allotted randomly in two groups. In Group-A patients were administered *Manashiladi lekhana anjana* for 30 days. In Group-B patients were administered with both *Manashiladi lekhana anjana* and *Abhaya churna* internally for 30 days. The clinical study has shown that combined therapy gives better results than topical treatment.

**Keywords:** Lekhana Anjana; Abhaya Churna; Kaphaja Kacha; Senile Immature Cataract.

### Introduction

Senile cataract is considered as one of the main cause of visual impairment and blindness in the world. Till date an effective medical therapy for senile cataract has not been found out. The only treatment of choice is surgery, but this is not equally available to all, and the surgery which is available does not produce equal outcomes. Owing to the increased rate

of incidence of senile cataract and the possible complications and contraindications of surgery, research for the need for drugs that could effectively tackle the problem has arisen.

There is no direct reference for senile cataract in *Ayurveda*. Considering the signs, Symptoms and histological changes in the lens, different stages of senile cataract may be compared to *kaphaja timira*, *kacha* and *linganasha*. Various medical measures have been advised in different authoritative textbooks of *Ayurveda* to manage *kaphaja kacha*. Surgery is mentioned only in the final stage of *kaphaja linganasha* where there is total loss of vision [1]. Hence, any promising intervention that could delay the progression of cataract can be implemented in the Vision 2020 program to provide an *Ayurvedic* care of vision to the millions of sufferers.

Various medicines are mentioned in Ayurvedic classics for vision care and prevention of cataract. Among these *lekhana Anjana* is one of the topical treatments used in *kaphaja kacha*. Considering this point, *Sithamanahashiladi Anjana* was selected. It contains *Sita*, *Manashila*, *Harathala*, *Tarkshya*, *Ela*,

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Received on 19.10.2017, Accepted on 23.10.2017

*Saindhava* and *Nagara*, having the *lekhaneeya* and *kaphaghna* properties. It is indicated in *Sleshmaja Timira* and also suitable for the management of *Kacha* [2]. And *Abhaya*, one of the varieties of *Hareethaki*, which is being used to treat *Nethraroga*, is having *chakshushya* properties [3].

#### *Aims and Objectives*

- To evaluate the efficacy of *Sitamanahashiladi Anjana* in *Kaphaja Kacha*.
- To evaluate the efficacy of internal administration of *Abhaya Choorna* along with *Sithamanahashiladi Anjana*.
- To compare the effect of both.

#### **Materials and Methods**

##### *Source of Data*

Patient, fulfilling the clinical criteria made for the diagnosis of *kaphaja kacha* were randomly selected irrespective of their sex, religion, occupation, etc. from OPD and IPD sections of the Department of *Shalakyata Tantra*.

##### *Inclusion Criteria*

1. Patients of age group of 50 to 70 years
2. Patients of either gender
3. Visual acuity of 6/9 or less

##### *Exclusion Criteria*

1. Senile Mature and Hyper Mature Cataract
2. Visual acuity of less than 6/60
3. Congenial, developmental, traumatic, complicated and metabolic cataract
4. Any other ocular pathology that can cause diminution of vision.

##### *Diagnostic Criteria*

Diagnosis will be established on the basis of subjective symptoms of *Kaphaja Kacha*, Visual acuity and Refraction. The diagnosis will be confirmed by Direct Ophthalmoscopy and Slit lamp examination.

#### **Method of Collection of Data**

A baseline examination was conducted for each patient in the trial group before initiating the treatment.

It consists of examination of Distant vision (DV) using Snellen's chart, Pinhole Improvement (PH), Near Vision (NV) using Roman Test Type near chart, Best Corrected Visual Acuity (BCVA) for distance and near distant vision. After recording this, involved eyes were dilated using two drops of tropicacyl plus. Then, slit lamp examination was performed under 10x magnification.

#### **Drug Preparation**

*Sithamanahashiladi anjana* and *Abhaya Churna* preparation *Abhaya Churna* was prepared according to the standard method of preparation of *Churna*.

*Sithamanahashiladi anjana* is a classical formulation mentioned in *Ashtanga hrudhaya*. It contains 8 *dravyas* (drugs) *Sita*, *Manahsila*, *Haritala*, *Ela*, *Saindhava*, *Nagara*, *Makshika* and *Madhu*,<sup>3</sup>. Each component of the drug after proper purification was weighed and equal quantity was taken except *Makshika* and it was taken as 4 parts. These drugs were subjected to fine pounding in a *khalva* for few hours then sufficient quantity of honey was added by little to get a homogeneous semi solid paste. Since the drug is to be used as *Anjana*.

##### *Sampling and Study Design*

The present clinical work will be conducted on number of 40 persons and are randomly categorized into two groups Group A and Group B consisting 20 in each group.

*Group A:* In this group 20 patients of *Kaphaja Kacha* will be treated with *Sitamanahashiladi Anjana*. 1 drop of *Anjana* dropped into lower fornix in the affected eye twice daily for 30 days in the morning and evening.

*Group B:* In this group 20 patients of *Kaphaja Kacha* will be treated with internal administration of 12 grams of *Abhaya Churna* in divided doses mixed with sufficient quantity of lukewarm water along with *Sithamanahashiladi Anjana*.

#### **Follow up**

Patients were asked to attend the OPD on alternate weeks for follow up for a period of 60 days.

##### *Statistical Calculations*

Statistical Calculations were performed using IBM SPSS 20 Version. Before and after treatment result of Visual Efficiency and other objective parameters were assessed using unpaired student T Test. The

fortnight assessment of the same parameters where done using repeated ANOVA (rANOVA) test. BT and AT of glare and other subjective parameters where assessed using Wilcoxon Signed Rank test. In the BT and AT analysis, statistical significance was observed at a p value of less than 0.05.

### Observation and Results

Forty patients were selected for clinical study. Observations were carried out on general aspects like age, sex, diet, occupation, socio economic status, and specifically regarding the disease like visual acuity, distance and near vision, BCVA- DV, BCVA- NV, Pin hole, Glare, Floaters, Diplopia and LOCS were considered.

The maximum number of patients i.e. 62.5% reported in the age group of 50-60 years. 63.33% of the patients belonged to middle class. 37.50% were Agriculturists. Majority of the patients were married (90%). It was also observed that 50% of patients were constipation. 50% of patients having symptoms in right eye and 50% in left eye.

#### *Showing Effects of Sithamanahashiladi Anjana in Group A*

##### *1. Visual Acuity*

- DV - Mean distant vision improved from 57.55 to 68.05 which is improved by 18.24% and it was significant (p = 0.035).
- PH improvement - Mean distant vision using a pinhole improved from 81.80 to 81.95 which improved by 0.1% and is not statistically significant (p = 0.944)
- NV- Mean near vision improved from 57.25 to 76.50 which improved by 33.62% which was highly significant (p = 0.013)
- BCVA DV - Mean BCVA DV improved from 86.25 to 88.50 which was improved by 2.60% which was not statistically significant (p = 0.151)
- BCVA NV - Mean BCVA NV improved from 96.25 to 96.75 which was improved by 0.50% which was not statistically significant (p = 0.163)

##### *2. Glare*

- The mean grading of glare was reduced from 0.70 to 0.35 which is significant (p = 0.059) Pattern of changes in the color of Mandalas with the treatment in Group A

##### *3. Density based on LOCS III*

- *Cortical Cataract:* The mean cortical cataract was reduced from 2.200 To 1.900 With a mean reduction of 14.5% which is significant (p = 0.045)
- *Nuclear Cataract:* The mean Nuclear Cataract was reduced from 4.091 To 4.000 With a mean reduction of 2.2% which is not significant (p = 0.341).
- *Posterior Capsular Cataract:* The mean Posterior Capsular Cataract was improved from 3.333 To 3.667 with a mean reduction of -10.02% which is not significant (p = 0.423).

#### *Showing Effect of internal administration Abhaya churna along with Sithamanahashiladi Anjana in Group B*

##### *1. Visual Acuity*

- DV - Mean distant vision improved from 53.05 to 71.40 which is improved by 34.59% and it was highly significant (p = .001)
- PH improvement - Mean distant vision using a pinhole improved from 81.60 to 82.65 which improved by 1.20% and is not statistically significant (p = 0.639)
- NV - Mean near vision improved from 57.75 to 77.25 which improved by 33.76% which was highly significant (p = 0.015)
- BCVA DV - Mean BCVA DV improved from 83.55 to 88.7 which was improved by 2.75% which was not statistically significant (p = 0.148)
- BCVA NV - Mean BCVA NV improved from 92.35 to 96.75 which was improved by 0.67% which was not statistically significant (p = 0.15)

##### *2. Glare*

- The mean grading of glare was reduced from 0.75 to 0.30 which is significant (p = 0.023)

##### *3. Density based on LOCS III*

- *Cortical Cataract:* The mean cortical cataract was reduced from 2.917 To 2.000 With a mean reduction of 31.44.% which is highly significant (p = 0.002).
- *Nuclear Cataract:* The mean Nuclear Cataract was reduced from 3.625 To 3.500 With a mean reduction of 3.45% which is not significant (p = 0.351).
- *Posterior Capsular Cataract:* The mean Posterior Capsular Cataract was reduced from 2.750 to

**Table 1:** Comparing the result on percentage of improvement of vision with *Sithamanahashiladi anjana* and *Abhaya churna* along with *Sithamanahashiladi Anjana*

Symptoms	Sithamanahashiladi anjana	Sithamanahashiladi Anjana and Abhayachurna
1.DV	18.24%	34.59%
2.PH	0.1%	1.20%
3.NV	33.62%	33.76%
4.BCVA DV	2.60%	2.75%
5.BCVA NV	0.50%	0.67%

Out of 40 patients none of them have reported diplopia and floaters

3.000 with reduction of -9.09% which is not significant (p=0.391).

## Discussion

In *Kaphaja Kacha*, person perceives objects as covered by diminished Sun, Moon, Lamp and *Drishtimandala* of eye appears as *Sweta* in colour. In initial stages of disease, *kapha* is vitiated. Its *Snigdha*, *Sheeta* and *Drava Gunas* are increased and are confined to *Rasadhatu*. Later *Sthira* and *Guru Gunas* are increased. As a result the transparent structure turns to dense white opacity.

Cataract follows the classical rule of hydration first and then opacification, i.e. *snigdha*, *kleda*, *sopha* of lens is converted to *sthira guna* of lens. Since the drugs in *anjana* are *rooksha*, *katu*, *tikta rasa pradhana*, *ushna veeryayukta*, *kleda shamaka* and *lekhana property* [4,5,6], will result in decreasing these pathologies in cortical cataract to a considerable extent, whereby the vision should improve considerably.

In nuclear cataract *sthira*, *Katina rooksha guna vriddhi* of nucleus of the lens occurs. The drug being *rooksha guna* in nature increases the same *gunas* thereby must add on the cataractogenesis. But this is not happening due to *kaphagna* and *lekhana* property of *anjana* which might have removed the *sthira* and *kathina kapha* present in the nucleus minimally.

*Abhaya* has *anulomana*, *shoshana* and *sodhana* properties. Senile cataract is a *Swabhava Balapravritta Vyadhi* which occurs by natural ageing process. Hence the associated *dosha* is *vata dosha*. *Vatanuloma* property soothes the *vata dosha*. *Shoshana* and *sodhana* properties help to alleviate *snigdha*, *kleda*, *sopha* of lens. And also *Abhaya* is considered as *chakshushya* (nutritive to the eyes) and *rasayana* [7]. Thus *Abhaya* can help in preventing; delaying and reversal of senile cataract as it is having adaptogenic, antioxidant, anti-cataract, immunomodulatory, anti-diabetic, anti-

hypercholesterolemic, free radical scavenger and rejuvenation properties [8].

## Conclusion

Cataracts are the leading cause of curable blindness. Cataract takes 62.6% of total cause of blindness as per national survey conducted 2001-2002 by WHO & NPCB. And the challenges are to prevent or delay cataract formation, and cure that which does occur.

In this aspect internal use of *Abhaya churna* along with *Sithamanahashiladi anjana*, have showed better results. This can be concluded that both systemic and topical administration is required for better management of *kacha*(senile cataract). *Chakshushya Rasayana*, *Chakshushya Ahara Vihara*, early diagnosis and proper management on *Dosha predominance* can prevent arrest or delay senile cataract.

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