



## A CRITICAL APPRAISAL ON APPLICATION OF LEKHANA KARMA IN EYE DISORDERS

Sapna Dinesh Bhandary<sup>1\*</sup>, Amarnath H K<sup>2</sup>, Chaithra S. Hebbar<sup>3</sup>

<sup>1</sup>Associate Professor, Department of Shalakyatantra, SDM College of Ayurveda, Udupi, Karnataka, India

<sup>2</sup>Associate Professor, Department of Shalakyatantra, SDM College of Ayurveda, Hassan, Karnataka, India

<sup>3</sup>Associate Professor, Department of Dravyaguna, SDM College of Ayurveda, Udupi, Karnataka, India

\*Corresponding Author Email: sdbshalakya@gmail.com

DOI: 10.7897/2277-4572.05636

Received on: 14/09/16 Revised on: 26/11/16 Accepted on: 30/11/16

### ABSTRACT

Among the eight surgical procedures described by Acharya Sushruta, chedana (~excision), bhedana (~incision), lekhana (~scraping/curette) and vyadhana (~venaepuncture/aspiration) are indicated in the diseases of eye. Lekhana was employed as an important surgical procedure of Shalakyatantra especially in most of the diseases of eye during Sushruta's period. Based on the different disease conditions, the method was commonly practiced either individually or along with other surgical procedures. A detailed description of pre-operative, operative and post-operative procedures of lekhana is explained by Acharya Sushruta. But advancements in the field of surgery have led to immense changes in the clinical practice. This paper focuses on all such diseases, procedures of lekhana karma and the various responsible factors leading to its decline from the current Ayurvedic ophthalmological practice.

**Key words:** lekhana (~scraping), Ayurveda, shalakyatantra, ophthalmology

### INTRODUCTION

Among the eight surgical procedures<sup>1</sup> described by Sushruta, four namely chedana (~excision), bhedhana (~incision), lekhana (~scraping) and vyadhana (~venepuncture/aspiration) are observed to be commonly employed in the diseases of eye<sup>2</sup>. Acharya Sushruta describes the surgical concepts of lekhana procedure in detail. The term lekhana literally means the act of scraping, to put a line or stroke<sup>3</sup> and was a widely practiced surgical procedure in most of the diseases of eye<sup>4</sup> employed either individually or along with other procedures during ancient times.

#### Lekhana as a surgical methodology in Ayurvedic ophthalmology

Practice of lekhana as a methodology can be categorized as follows:

- 1) Lekhana as an independent procedure
- 2) Prachchana (superficial/subcutaneous bloodletting) followed by lekhana
- 3) Chedana followed by lekhana
- 4) Bhedana followed by lekhana
- 5) Vyadhana followed by lekhana

#### Lekhana as an independent procedure<sup>5</sup>

Lekhana as an independent procedure is indicated in conditions like shyavavarthma (~oedema of eye lids) and kardamavartma (~lid abscess) where the lid should be scraped uniformly. Shyavavarthma and kardamavarthma presents with lid edema, discoloration, itching and secretion in lid, suggestive of long standing inflammatory changes in the lid due to the vitiation of rakta. Here lekhana is aimed to remove the vitiated blood from

the affected site which is done in the form of a uniform scratch or line on the lid.

#### Prachchana followed by lekhana<sup>6</sup>

Prachchana with lekhana is indicated in diseases such as varthmavabandha (~allergic edema), klistavarthma (~allergic conjunctivitis), bahalavarthma (~presence of papillae) and pothaki (~trachoma). These diseases present with dry, rough, dense, harder options. Here, prachchana is performed to remove vitiated blood to make the lesions soft and then lekhana is advocated. Pothaki presents with multiple eruptions resembling red mustard seed and dense in nature. This clinical presentation is similar to trachoma which presents with multiple follicles in the tarsal conjunctiva. Hence Prachchana (bloodletting) is done to make the lesions soft followed by lekhana (scraping). A similar line of management is mentioned in contemporary science for trachoma where the follicles are expressed out with Knapp's forceps. This proves that the principles used in the treatment of pothaki and trachoma is similar.

#### Chedana followed by lekhana<sup>7</sup>

Another category is chedana followed by lekhana. This is indicated in utsangini (chalazion), kumbheeka (stye) and varthmasharkara (granular form of trachoma). The features of utsangini are a painless swelling in the lid and on averting the lid, pus point is observed on the conjunctiva side. Kumbheeka and varthmasharkara manifest with small eruptions. In chalazion, an incision is made with a sharp blade and the granulomatous material is curetted out with the help of a scoop.

#### Bhedana followed by lekhana<sup>8</sup>

The disease presenting with small and reddish swelling and hard in consistency can be adopted with bhedhana and lekhana where

it is allowed to suppurate and when the pus is formed, it is drained by an incision and the remaining material is curetted to prevent the recurrence.

### Vyadhana followed by lekhana<sup>9</sup>

Kaphaja linganasha (~mature cataract) is a disease condition which presents with gradual loss of vision along with a whitish discoloration in the pupillary area due to the opacity of lens. The line of treatment affirmed for this condition by Sushruta is vyadhana (~puncturing) followed by lekhana. This ancient method of surgery was popularly known as “couching”<sup>10</sup> in which the lens is dislodged or subluxated from the pupillary area and then lekhana was done to eliminate the remaining matter from the site<sup>11</sup>.

### Assessment of performance of lekhana Procedure

Sushruta has explained certain parameters to assess the proper and improper lekhana karma. Absence of bleeding from the site, itching and oedema and appearance of the lid like fingernail are the characteristic features of samyak (proper) lekhanakarma<sup>12</sup>. Improperly done lekhana methods are the result of either ayoga (under scraping) or atiyoga (over scraping). Excessive bleeding from the site, congestion, oedema of lids, discharge, blurring of vision and inflammatory features are due to under scraping<sup>13</sup>. Features like Inward rolling of lids (entropion), misdirected eye lashes (trichiasis) and discharge with pain are suggestive of over scraping<sup>14</sup>.

### Tools in lekhana procedure

Different surgical instruments were designed by Susruta for lekhana. He describes the characteristic features of these instruments with their dimensions and also advocates the use of certain leaves like shefalika<sup>15</sup> (*Nyctanthes arbortristis* Linn.) and shaaka (*Tectona grandis* Linn. f) to perform the lekhana karma. Dalhana opines that the usage of instrument varies based on the involvement of dosha<sup>16</sup>

In vata-kaphaja conditions where the lid is hard, lekhana should be done with instruments<sup>17</sup>. Eg, Mandalagrashastra (scalpel), a round tipped sharp instrument is employed for most of the eye diseases where lekhana is indicated. They are of 2 types-one is round tipped and the other is sharp tipped similar to knife<sup>18</sup> both utilized in lekhana karma. Another instrument Shalaka, known as yavavakra shalaka<sup>19</sup> is 8 inches long tied with a thread in its midpoint<sup>20</sup> and is exclusively used for lekhana karma in mature cataract.

If the lid is soft due to the vitiation of pitta and rakta as in klistavarma, leaves of shephalika or shaka are use<sup>21</sup>.

### CONCLUSION

Lekhana described in Acharya Sushruta's literature, proves that it is an anciently documented operational procedure in practice in 2<sup>nd</sup> century A.D. nearly 4000 years ago. The detailed description of procedure of lekhana karma is explained by Sushruta showing that the surgical techniques were abundantly practiced in earlier days. Currently due to advancement in the contemporary medicine these are not much in practice as per the ancient textual description. The techniques used today are similar to the principles of lekhana karma in ancient times and are abundantly practiced in the name of scraping or curette. The surgical instruments utilized in scraping are very similar to the instruments used today. The basic idea and function are applicable even in the present day. These are been modified and

improved to go well with the present day practice. The incision and curette done in chalazion, expression of follicles in trachoma could be incorporated in lekhana thus depicting that our acharya had advanced knowledge about the techniques of surgical methods and tools.

Ayurveda applications are influenced by foreign invasions right from Greek to British, westernization in the name of advancement, lack of information about anesthesia, approach of the society towards sophisticated techniques of modern ophthalmology for the diagnosis and management of eye diseases, lack of encouragement and popularization by the government, failure of synchronization with allied sciences, lack of interest in Ayurveda with a preoccupied mindset that it is old fashioned specially in field of surgery<sup>22</sup> have contributed negatively to the minimal practice of traditional lekhana, as a specialized method of Ayurvedic Surgery. Though Acharya Sushruta is announced worldwide as the father of surgery, not continuing the professionalism taught by him by Ayurvedists surely is a reason which has pushed surgical methodologies in Ayurveda including lekhana to back stream. Though the influence of various factors declined the practice of lekhana, it has not lost its importance in day today practice because diseases treated classically have given good success rates to practitioners of Shalakyatantra. Thus regularly employing the classical method of lekhana in indicated eye disorders, good documentation of its practice, updating and upgrading it as a specialized procedure, training the graduates thus boosting their confidence to adopt lekhana, research regarding the same are some way through to bring back the lekhana karma to the front line of Ayurvedic surgery.

### REFERENCES

1. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. I, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.su.5/5).
2. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.8/4).
3. Monier-Williams M.A dictionary English and Sanskrit. Delhi: Motilal Bnarsidass Publishers Pvt.Ltd, Delhi, 1999.
4. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.25/8).
5. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/15).
6. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/14).
7. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/16).
8. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/17).
9. Sushruta, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.17/62).

10. Trikha S; Turnbull AMJ; Morris RJ; Anderson DF; Hossain P. The Journey to Femtosecond Laser-assisted Cataract Surgery. *Medscape eye*. [Online] 2013; 27(4): 461-473. DOI 19/06/2016
11. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.17/62).
12. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/9).
13. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/10).
14. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/13).
15. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/6).
16. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/6).
17. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/6).
18. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. I, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.su.8/3).
19. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.17/59).
20. Ramasundara Rao M, ShalyaTantraVignanam (Surgery in ayurveda), 2<sup>nd</sup> edition, Susruta optical Dornakal Road, Vijayawada, 2006, p.204
21. Sushrutha, Sushruthasamhitha with English translation of text and Dalhana's commentary along with critical notes edited and translated by Priyavrat Sharma. Vol. III, Published by ChaukhambaVisvabharati, Varanasi: 3rd edition. (Su.Utt.13/6).
22. Ramasundara Rao M, ShalyaTantraVignanam (Surgery in ayurveda), Chaukhamba Publications, New Delhi, 3<sup>rd</sup> edition, 2006

**How to cite this article:**

Sapna Dinesh Bhandary, Amarnath H K, Chaithra S. Hebbar. A critical appraisal on application of lekhana karma in eye disorders. *J Pharm Sci Innov.* 2016;5(6):

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: JPSI is solely owned by Moksha Publishing House - A non-profit publishing house, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. JPSI cannot accept any responsibility or liability for the site content and articles published. The views expressed in articles by our contributing authors are not necessarily those of JPSI editor or editorial board members.