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# Nagasutra an effective and advance alternate of Ksharasutra for the treatment of Anorectal disorders: A hypothetical explication based on ancient ayurvedic treatise

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#### Abstract

Hypothesis and critical review are most essential part for any research work. It helps to know the subject in detail. In order to get the in depth knowledge of the subject, it is necessary to go through its ancient background. Ksharasutra is one of the unique preparation therapeutically used in Ayurveda and have been used as effective treatment method for decades without any observable side effects. Despite Kshatrasutra being very effective, Nagasutra can be used as an alternative. It can be an advance ayurvedic parasurgical treatment used to manage various anorectal disorders. Nagasutra is derived from two words, Nag (Lead) and Sutra (Thread). Nagasutra is a medicated thread, which is impregnated with latex of Snuhi Kshira, Arka Kshira, Naga bhasma and Haridra powder. This prepared sutra is known as Nagasutra which can prove to be effective and useful in the treatment of various anorectal disorders. **Objective:** The objective is to study and analyze the importance and utility of Nagasutra, in the treatment of anorectal disorders.

**Data Source:** Nagsutra, Nag (Lead) and Sutra (Thread) related literature from various journals, articles and previous research papers related to this subject.

**Review Methods:** All the published and unpublished literature related to Nagasutra, Nag (Lead) and Sutra are reviewed by comparing and analyzing the different meanings and thoughts of classical as well as contemporary authors.

**Result and Conclusion:** This article highlights the utility and importance of Nagasutra in place of Ksharasutra for the treatment of various anorectal disorders.

Keywords: Ksharasutra, Nagasutra, Anorectal disorder, Naga, Sutra

#### Introduction

Ayurveda has great potential to treat many problems of the medical world. Along with other branches of Ayurveda Shalya Chikitsa is one of the most important branch of ayurveda [1]. Sushruta Samhita is the most useful and important available text in surgical practice. In ayurveda a lot of methods are described for the treatment of various disorders. Among them, Ksharasutra method is described for the treatment of anorectal disorders [2]. There are some diseases which are a real challenge, not only for the patient to endure but for the doctor to treat. These include recto-inguinal, recto-vaginal, ano-scrotal fistulas which are extremely troublesome [3]. Ayurvedic treatments such as the Agnikarma, Jalaukavacharan and Ksharsutra are extremely safe and don't have any side effects. Ksharasutra therapy has been described in ancient ayurveda by Maharshi Sushruta [4]. Due to safe and effectiveness therapy this technique is being practiced worldwide.

Though the description of Nagasutra is not found in any classics of Ayurveda but Nagasutra therapy can be a better and advance ayurvedic parasurgical procedure and time-tested ayurvedic technique in the management of anorectal diseases. It is a safe, sure and cost effective method for the treatment of various anorectal disorders like piles, fistula and fissure.

**Aim:** The aim of this study is to analyze and study the importance and utility of Nagasutra in the treatment of anorectal disorders.

**Materials and Methods:** Nagsutra, Nag (Lead) and Sutra related literature from published texts. Reviewing of contemporary literature, especially focusing on journals, articles, internet material, and previous research papers related to this subject.

Corresponding Author: Rajesh Kumar Mishra Assistant Professor, Patanjali Bharatiya Ayurvigyan Evum Anusandhan Sansthan. Haridwar, Uttarakhand, India Nagasutra: Nagasutra is derived from two words, Naga and Sutra. Naga means lead and Sutra means thread. Nagasutra is a process through which severe tumors and anorectal disorders can be treated. That is, the complex unwanted cell growth can be mitigated with the help of Naga and Sutra. Therefore in this paper, attempt has been made to explain the two different preparative methods of Nagasutra along with description of Naga and Sutra which includes synonyms, historical background and therapeutic properties according to different ayurvedic literatures.

## Historical background of Naga (Lead)

History is a branch of knowledge that records and explains past events. Lead is a metal used since ancient times, which has retained its identity even in the present era. Therefore, it is very necessary to know its historical background.

**Description of Naga in Vedic Literature:** Description of Naga is enumerated in Yajurveda (Yajurveda 18/13, Pg .9-10) <sup>[5]</sup> and Atharvaveda<sup>[6]</sup> along with other metals. Yajnavalkya Smriti mentions six metals in which lead is one of them (13:178, Pg 451-452) <sup>[7]</sup>. Manusmriti <sup>[8]</sup> also mentions the description of lead (05/113-114, Pg 267-268). Shukla-Yajarved, Shatapatha Bramhana and Chhandogyopanishad mentioned Naga as one of the five metals. Description of Naga along with other metals are also found in Koutilya Arthashastra (Koutilya Arthashastra 1/12/8) <sup>[9, 10]</sup>.

**Description of Naga in Ayurvedic Literature:** Description of lead is not only found in Vedas but it is also depicted in various ayurvedic literature including Samhita and Nighantu.

- A. Samhita: Description of Naga is available in various treatise like Kautilya Arthashastra [10], Ayurveda Prakasha [11], Caraka Samhita [12], Rasahridayatantra [13], Rasarnava [14], Rasendra Chudamani [15] and Rasaratna Samucchaya [16], Sushruta Samhita [17-18], Rasendra Mangala [9, 19-22], Rasopanishada [23], Anandakanda [24], Rasendrachintamani [25] and Rasakamdhenu [26] (Table. 1)
- **B. Nighantu:** Description of Naga is available in various Nighantu like Astanga Nighantu (Viprakirna Varga: 307) [27], Abhidhanaratnamala (Lavanaskandha: 6) [28], Saraswati Nighantu (Candanadi Varga: 100) [29], Madanapala Nighantu (Suvarnadi Varga: 12) [30], Chandra nighantu (Dhatuvarga: 5) [31], Rajanighantu (Suvarnadi varga: 24-25) [32] and Paryayaratnamala (Parya. 222) [33].

Sanskrit names of Naga: Description of Naga along with their synonyms and properties is found in various Nighantu. Bahumalam, Bhujagam, Bhujangakam, Bhujangkam, Chinam, Chinapishtam, Dhatumalam, Dhatusambhavam, Krishna Shishaka, Krishnakambojam, Guru, Jadam, Kuvanga, Mridukrishnayasha, Mriduloha, Naga, Nagahvakam, Pachaneshtam, Padmam, Pardanam, Paripishtakam, Pishtama, Saram, Siravritam, Sisaka, Sisam, Sisapatram, Sitam, Tarashudhhikaram, Uraga, Vangam, Yavaneshtam, and Yogeshtam these are the synonyms of Naga. (Table. 2)

**Properties of Naga:** It is Usna <sup>[32]</sup>, Kaphavatashamaka <sup>[32]</sup>, Arshoghna <sup>[32]</sup>, guru <sup>[32]</sup> and Mehanashaka <sup>[30]</sup>. According to

Ayurveda prakasha [11] it is used to treat Prameha, Vatavikara, Arsha, Gulma, Arbuda, grahani, Atisara, Kamala and Ratija roga.

Method of preparation of Nagasutra: Nagasutra is medicated thread performed by first coating a surgical linen thread of gauge number 30 with purified Galita Naga (lead) 1 time. After some time linen thread is taken out and then soak it in Arakshira (latex of Arka) or Snuhi kshira (Latex of Snuhi) and shade dried. Nagasutra is prepared by two methods.

**Method 1:** Normally purified Naga (Lead) is used to prepare Nagasutra. Firstly, purify the lead by the ancient methods described in various ayurvedic treatises. When the lead is in a molten (Galita) state, then in that state, keep a cotton thread (sutra). After some time take out the cotton thread and soak it in Arakshira (latex of Arka) or Snuhi kshira (Latex of Snuhi) and shade dried. This prepared sutra is known as Nagasutra which can prove to be effective and useful in the treatment of various anorectal disorders.

**Method 2:** In second method Nagasutra is prepared by three coatings of Nagabhasma, three coatings of Snuhi Ksheer and one coating of Haridra churna. Rest of the method is similar as above.

# Probable mechanism of action of Nagasutra

Due to Katu, Tikta, Kashya Rasa, Ruksha, Tikshna Guna and Ushna Veerya it is effective to break the pathogenesis of anorectal disorders. Due to Ushna Veerya of Naga it acts as Kaphavata shamaka. Ingredients of Nagasutra are having Katu, Tikta, Kashya Rasa. Due to Tikta Rasa it is having property to penetrate the Dhatus and enter in deep. The Kashaya Rasa has astringent effect and Katu rasa pacify the Kapha.

# Significance of Nagasutra

- Lead is anthelmintic. Therefore, there is no fear of bacterial, fungal and viral infection during the use of Nagasutra.
- Lead is anti inflammatory. Therefore, there is no visible inflammation during its use.
- Nagasutra inhibits the uncontrolled multiplication of cells.
- Due to its Grahi property, it prevents the oozing of any secretion.
- Lead is analgesic. Therefore, it prevent from pain.

# Difference between Ksharasutra and Nagasutra

Nagasutra is the advanced state of Ksharasutra. Ksharsutra contain Snuhi ksheer, Apamarga Kshara and Haridra churna. Whereas Nagasutra contain Naga Bhasma along with Snuhi ksheer and Haridra. This shows that Ksharasutra is purely an herbal preparation while Nagasutra is a Herbometallic preparation. Presence of metal in Nagasutra makes it more effective for the treatment.

#### **Discussion**

Ksharasutra is an age-old Ayurveda technique that has its origin in India. Ksharsutra has mentions in the archaic Indian literature. It was supposed to be Sushruta's method of treating Bhagandara and Arsha. The technique has been used since then, albeit modified with developing times. It

makes the use of Seton-cotton thread impregnated with layers of medicinal plant extracts (latex). It takes about four weeks to prepare the Kshar Sutra [3]. Whereas, Nagasutra is prepared within a week. In Ksharsutra treatment also there are some demerits like long duration of treatment and pain while changing the thread during every sitting, burning, perianal haematoma, irritation, secondary bleeding and patient also gets psychological discomfort that sometimes and tightness in the anal region [34]. Nagasutra works so quickly because of being metallic preparation. Nagasutra acts four times more rapidly than Kshatrasutra. The general

function of alkali (Kshara) is to perform erosion. Due to which the erosion of any dravya happens slowly but not gradually. While the Nagasutra do not undergo erosion, that is why it works quickly. Nagasutra is a metallic preparation while Ksharasutra is a herbal preparation. According to ayurvedic literature metallic preparation is more efficient than herbal preparation. Hence, Nagasutra is more effective comparatively. The Dravya of Rasgavarga is more active and they are more potent. This shows that Nagasutra is more effective.

Table 1: Categorization of Naga as per ayurvedic Samhita

| Sr. | Name of Treatise                                  | Varga/ Formulation                | Uses   | Reference  |  |
|-----|---|-----------------------------------|--|------------|--|
| 1   | Astanga Hridaya                                   | Timirantaka Anjana                | Cataract, conjunctivitis, iritis and timira  | [9]        |  |
| 2   | Astanga Sangraha                                  | Anjana                            | Corneal ulcer and Iritis   | [9]        |  |
| 3   | Ayurveda Prakasha                                 |                                   |  | [11]       |  |
| 4   | Caraka Samhita                                    |                                   |  | [12]       |  |
| 5   | Rasahridya tantra                                 |                                   |  | [13]       |  |
| 6   | Rasarnava   | Ashta Loha                        |  | [14]       |  |
| 7   | Rasendra Chudamani                                |                                   |  | [15]       |  |
| 8   | Rasaratna samuchchaya                             |                                   |  | [16]       |  |
| 9   | Sushruta Samhita                                  | Trapavadi gana                    | Eye disorders  | [17]       |  |
| 10  | Sushruta Samhita (Nibandha<br>Sara Sangraha Tika) |                                   | Conjunctivitis   | [18]       |  |
| 11  | Rasendra Mangala                                  |                                   | Anal fistula, erysipelas, eye diseases.  | [9, 19-22] |  |
| 12  | Rasopanishada                                     | counted Naga in best seven metals |  | [23]       |  |
| 13  | Anandakanda                                       |                                   | Pramehaghna (antidiabetic), Dipana (appetizer) and Amavatanuta (effective In rheumatoid arthritis) | [24]       |  |
| 14  | Rasendrachintamani                                |                                   |  | [25]       |  |
| 15  | Rasakamdhenu                                      |                                   |  | [26]       |  |

Table 2: Sanskrita Name of Naga described in various Nighantu

| Sr. | Sanskrit name     | AN [27] | MN [30] | SN [29] | AR [28] | RN [32] | PR [32] | CN [31] |
|-----|-------------------|---------|---------|---------|---------|---------|---------|---------|
| 1   | Sisaka            | +       | +       | +       | +       | +       | +       | -       |
| 2   | Naga              | +       | +       | +       | +       | +       | +       | -       |
| 3   | Uraga             | +       | +       | -       | -       | +       | -       | -       |
| 4   | Sitam             | -       | -       | +       | -       | -       | -       | -       |
| 5   | Nagahvakam        | -       | -       | +       | -       | -       | -       | -       |
| 6   | Krishna Shishaka  | -       | -       | +       | -       | -       | -       | 1       |
| 7   | Mriduloha         | -       | -       | +       | -       | -       | -       | 1       |
| 8   | Sisapatram        | -       | -       | +       | -       | -       | -       | 1       |
| 9   | Bhujangakam       | -       | -       | +       | -       | -       | -       | 1       |
| 10  | Dhatumalam        | -       | +       | -       | -       | -       | -       | 1       |
| 11  | Paripishtakam     | -       | +       | -       | -       | +       | -       | -       |
| 12  | Yogeshtam         | -       | -       | -       | +       | +       | +       | -       |
| 13  | Krishnakambojam   | -       | -       | -       | +       | -       | -       | -       |
| 14  | Bahumalam         | -       | -       | -       | -       | -       | +       | -       |
| 15  | Chinam            | -       | -       | -       | -       | -       | +       | -       |
| 16  | Pishtama          | -       | -       | -       | -       | -       | +       | -       |
| 17  | Sisam             | -       | -       | -       | -       | +       | -       | +       |
| 18  | Jadam             | -       | -       | -       | -       | +       | -       | -       |
| 19  | Yavaneshtam       | -       | -       | -       | -       | +       | -       | +       |
| 20  | Bhujangkam        | -       | -       | -       | -       | +       | -       | -       |
| 21  | Kuvanga           | -       | -       | -       | -       | +       | -       | -       |
| 22  | Mridukrishnayasha | -       | -       | -       | -       | +       | -       | 1       |
| 23  | Padmam            | -       | -       | -       | -       | +       | -       | 1       |
| 24  | Tarashudhhikaram  | -       | -       | -       | -       | +       | -       | 1       |
| 25  | Siravritam        | -       | -       | -       | -       | +       | -       | -       |
| 26  | Vangam            | -       | -       | -       | -       | +       | -       | -       |
| 27  | Chinapishtam      | -       | -       | -       | -       | +       | -       | -       |
| 28  | Pachaneshtam      | -       | -       | -       | -       | -       | -       | +       |
| 29  | Dhatusambhavam    | -       | -       | -       | -       | -       | -       | +       |
| 30  | Pardanam          | -       | -       | -       | -       | -       | -       | +       |
| 31  | Bhujagam          | -       | -       | -       | -       | -       | -       | +       |

| 32 | Saram | - | - | - | - | - | 1 | + |
|----|-------|---|---|---|---|---|---|---|
| 33 | Guru  | - | - | - | - | - | - | + |

AN.: Astanga Nighantu; MN.: Madanapala Nighantu; SN.: Saraswati Nighantu; AR.: Abhidhanaratnamala; RN.: Rajanighantu; PR.: Paryayaratnamala; CN.: Candranighantu.

#### Conclusion

Although the Kshatrasutra is an ancient, practical and easiest method of treating anorectal disorders. If Nagasutra is used instead of Kshatrasutra, it can prove to be even more useful. The Dravya used in the preparation of Nagasutra increase its usefulness even more. From the above hypothetical view and classical references it can be assumed that Nagasutra will be more effective in the treatment of anorectal disorders if used in place of Ksharasutra.

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