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A clinical Study of Apamarga Siddha Tail Nasya in the Management of Manyastambha w.s.r. or Cervical Spondylosis

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A CLINICAL STUDY OF APAMARGA SIDDHA TAIL NASYA IN THE MANAGEMENT OF MANYASTAMBHA W.S.R. OR CERVICAL SPONDYLOSIS

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PREFACE

This book presents a clinical study on the effectiveness of *Apamarga Siddha Tail Nasya* in the management of *Manyastambha* (Cervical Spondylosis). In the present era, musculoskeletal disorders such as cervical spondylosis are increasingly common due to sedentary lifestyles and occupational stress.

Ayurveda offers a holistic approach for the management of such conditions, emphasizing the balance of doshas and the use of classical therapeutic procedures. The present work highlights the therapeutic potential of Nasya Karma using Apamarga Siddha Tail and provides valuable clinical observations.

This study aims to bridge the gap between traditional Ayurvedic practices and modern clinical understanding, contributing to evidence-based Ayurveda.

We appreciate the sincere efforts of the author in compiling and presenting this work. We hope this book will serve as a useful reference for students, academicians, researchers, and practitioners in the field of Ayurveda and allied sciences.

— Publisher

World Journal of Pharmaceutical Science and Research (WJPSR)

INDEX

Sr. No.	Chapter	Page No.
1.	Introduction	01-03
2.	Previous work done	04
3.	Aim & Objective	05
4.	Review of Literature	06-49
	• Historical Review of Manyastambha	06
	• Manyastambha	07
	• Anatomy & Physiology of Cervical Spine	14
	• Cervical Spondylosis	22
	• Nasya	27
	• Drug Review	47
5.	Material & Method	50-59
6.	Observation	60-67
7.	Results	68
8.	Discussion	69-77
9.	Conclusion	78
10.	Summary	79-81
11.	References	82-96
12.	Bibliography	97-98
13.	Abbreviation	99
14.	Annexures Inform Consent	100-105
	• Case Record Form	102
	• Standardization Certificate	105

INTRODUCTION

Ayurveda is the science & art of life. The main objective of Ayurveda is maintaining the health of healthy person & to make a person disease free. Among the various treatment modalities of Ayurveda, Panchakarma therapies are the ones which are mostly highlighted in the present scenario. Being the purification therapy & its effectiveness without causing any untoward effects is the reason behind the new found glory.

Panchakarma therapy is a Shodhana Chikitsa which aims to eliminate, perverse Doshas from the body to maintain the state of health & nourishing the body & mind. Vamana, Virechana, Basti, Nasya, Raktmokshana are the basic five therapies of Panchakarma. Snehana & Swedana are the Poorvakarma of above five therapies.

In today's modern world, human life is affected by many cervical spine related problems due to change in life style, food habits, stress in personal & professional life, travelling & improper exercise. This life style transformation has long term effect on human health. The diseases of joints, locomotors system are one of sequel of modern advancement.

Manyastambha is composed of two words "Manya & Stambha''. 'Manya' means back of neck & 'Stambha' means stiffnes, immovability of neck i.e. inability of natural neck function. Manyastambha is one of the Vataja Nanatmaja Vyadhi & Urdhvajatrugata Vyadhi. Manyastambha is the disease which causes Shoola (pain), Stambha (stiffness), Gaurava (Heaviness), Chimchimayana (Numbness) in Manya Pradesh. Improper sleeping posture, use of large pillows or extra soft mattress, day sleeping (Diwaswapa), watching downwards - upwards side for long time, causing overstretching of neck are specific causes of Manyastambha. Due to above mentioned reasons, Vata & Kapha entity gets perverted & causes Manyastambha. The perverted Kapha obstructs the channel of Vata leading to restricted & painful movements, resulting in Manyastambha. Phathogenesis of Manyastambha happens due to Dhatukshaya or Margavarodha. In Dhatukshaya, degenerative changes are found in the cervical spine & disc which is resultant of ageing process & in Margavarodha, Vata & Kapha Dosha create complete compression in nerve root. It results in various osteophytic changes in cervical spine. Both conditions are explained in modern science. Manyastambha can be clinically co- related with cervical Spondylosis.

Spondylo is the Greek word meaning vertebra. Spondylosis generally means changes in the vertebral joints characterised by increasing degeneration of the intervertebral disc with subsequent changes in the bones & soft tissues. Cervical Spondylosis is a degenerative condition of cervical spine that is mostly caused by age related changes in intervertebral disc. Cervical Spondylosis is occurring in middle & later decades of life particularly above 50 years of age. As per research study, the prevalence[3] of Cervical Spondylosis was 5.23% & it was more commonin males than females. The ratio was 3:1.

Among five purification therapy, Nasya is said to be effective in curing the diseases of Urdhvajatrugata[4] (supraclavicular region) i.e. diseases of head, neck, eyes, ears & throat. The procedure by which medicine is administered through nasal route is called as Nasya Karma. It is practically more feasible & economic compared to other Panchakarma therapy, even on out patient department. It is widely practiced without much difficulty & with satisfactory clinical success.

Nasya is not only advised in disease management but also in Dinacharya for strengthning the health of sense organ. Among all the Drava- Dravya used for Nasya Karma, Sneha (oil) is routinely practiced because of its practical feasibility, easy availability & inherent Vatakaphahara property[5] & on the basis of dose of (Sneha) oil used, Nasya is classified in to two types as, Marsha & Pratimarsha. For Marsha Nasya, again three doses are mentioned by Acharya according to Dosha & patients Bala. Nasya also acts on Manasa Bhava like Chinta, Shoka, Krodha, Bhaya etc.

Nasya[6] is one of the most effective rather best treatment for Manyastambha because is act on root cause of disease. Nasya Karma is convinent, time & cost effective, easy with on side effect treatment. Apamarga Siddha Tail Nasya reduces the pathology & root cause of Manyastambha.

Apamarga is a classical drug in Shirovirechana Gana & Shirovirechana Mahakashaya by Acharya Charaka[7] & Sushrutacharya[8] & Ashtanghridyakara[9] also mention Apamarga as a Shirovirechana Dravya. By its property it is mainly used in Vatakapha's diseases. The property of Apamarga is elimination, exudation of Dhosha from nose by Nasya Karma. In Manyastambha Vyadhi, Apamarga Siddha Tail is used for perverted Vata, Vatakapha & also used in Dhatukshaya & Margavarodha Avastha

by its properties.

Apamarga Siddha Tail is a new remedy for Nasya Karma in Manyastambha.

The drug in Apamarga Siddha Tail is cost effective & it is easily available; so practical application is feasible & administration of Apamarga Siddha Tail though nasal root is convenient.

Need of Study

Manyastambha is most commonly occurring disorder. Changing life styles i.e. stressful jobs, dietary habits, travelling, improper posture of sitting, sleeping & working orders result in Manyastambha. A clinical review of aetiology, signs & symptoms states the co- relation with Cervical Spondylosis.

This disease does not have much effective medicine or therapy in modern medicine. Analgesic, anti- inflammatory are the choice of drugs in allopathic.

Surgery occasionally was performed. All the analgesics, anti inflammatory drugs are prone to so many side effects; particularly in prolonged use.

Ayurvedic approach for Manyastambha is to minimise the degeneration process & to give strength to Manyapradesha. Manyastambha is one of the Urdhvajatrugata Vyadhi; so in this disease Nasya is more beneficial treatment. Nasya is simple technique, easy, economically feasible & has no adverse effect, if patient follows the protocol properly. So researchers can find new remedy for Nasya Karma in Manyastambha. Researchers have the scope in finding new remedies.

PREVIOUS WORK DONE

1992 - A study on Manyastambha w.s.r. to its management by Nasya.
Hebbbar S. (GAMC & H, Mysore)

2000 - To study the effect of Apamarga- Beeja Pradhamana- Nasya.
Mnadar Bhange (SMBT Ayurved College & Hospital, Igatpuri, Nashik)

2005 - Assessment of Efficacy of Anu Tail Pratimarsha- Nasya as Upakarma in Dinacharya with Special Reference Manya- Stambha.
Vihad Gorakshanath. (Tilak Ayurved Mahavidhyalaya, Pune)

2007 - A comparative evaluation of Sthanik Snehan and Nasyakarma in the management of Manyastambha - A Clinical Study.
Shashikala (GAMC & H, Bangalore)

2012 - A comparative study on the effect of Arkatra Sweda & Dashmoola Kwatha Sweda in the management of Manyastambha.
Vishavender Attri (Jabshetty Ayurvedic Medical College and PG Center, Bihar)

AIM & OBJECTIVES

Aim

To study the effect of Apamarga Siddha Tail Nasya in the management of Manyastambha w.s.r. to Cervical Spondylosis.

Objectives

Primary Objective

A clinical study of Apamarga Siddha Tail Nasya in the management of Manyastambha w.s.r. to Cervical Spondylosis.

Secondary Objectives

To study the Nasya Karma in detail. To study the Manyastambha in detail.

To study the Cervical Spondylosis in detail.

REVIEW OF LITERATURE

Historical Review of Manyastambha

In Vedic literature direct reference of Manyastambha is not available but in Riga-Veda & Atharva- Veda we can see the detail of Vata- Bheda, Sleshamka Kapha, Sandhista Vyadhi & medicine used in Vata Vyadhi.

The references of disease are available in Samhitas as Vatavyadhi; it is a group of diseases which can be occurred by the perversion of Vata Dosha. In Manyastambha the perversion of Vata Dosha is seen. The references are found in Bruhatrayees as well as in Laghutrayees with Shamana & Shodhana treatment.
The disease was highlighted in early 20th century.

Charka Samhita

Charka Vatavyadhichikitsa Adhyaya in Chikitsasthana explained the symptoms & types of Manyastambha Vyadhi i.e. Antarayama & Prushtayama.[2]

Charka Tri- Marmiya Adhyaya in Siddhisthana explained Manyastambha occurred due to head injury i.e. Shirobhighata[3] & considered Antarayama as Manyastambha.
Charka Uttarbastisiddhi Adhyaya in Siddhisthana explained

Manyastambha happened due to Vyapada of Shodhana Karma.[4]

Susharuta Samhita

Susharuta Vatavyadhinidana Adhyaya in Nidanasthana mentioned etiological factors for Manyastambha & i.e. sleeping in day time (Diwaswapa), wrong sleeping posture, continuously gazing upward & Shleshma Avrutta Vata.

Susharuta Mahavatavyadhichikitsa Adhyaya in Chikitsasthana explained treatment of Manyastambha.[5,6]

In Susharuta Samhita[7] Manyastambha is dealt as the prodromal symptoms of Aptanka a Vatavyadhi but commentator Gayadasa on Sushruta Samhita considered Manyastambha as individual disease due to its causative factors were explained separately as disease.

Ashtanghridyam

Vagbhatacharya explained timing of Nasya & timing of Nasya according to various diseases; in Manyastambha Nasya can be given in morning & evening time continuously for 1 week as mention in Ashtanghridyam Nasyavidhi Adhyaya in Sutrasthana.

Vagbhatacharya explain sign & symptoms & also explains pathology of disease as Antarayama in Ashtanghridyam Vatavyadhinidana Adhyaya in Nidanasthana.

- Madhawnidana,[10] Bhavaprakasha[11] & Sharangdhara Samhita[12] described Manyastambha as individual disease by discussing its detailed pathology with its specific treatment.
- Chakradatta,[13] Vangsena,[14] Bhaishjyaratnavali[15] also discussed Nidana & treatment for Manyastambha as an individual disease.
- In present day the contemporary science explains elaborated description of Cervical Spondylosis. Which is an inflammatory & degenerative disease has been studying under separate branch Rheumatology. Liked with the bony lesions.[16]

MANYASTAMBHA

Etymology of Manyastambha

The term Manyastambha is composed of two different words. Manya + Stambha = Manyastambha.

A part below the head is called Manya & Stambha means rigidity, stiffness or immovability. Thus, Manyastambha is a clinical condition in which back of neck becomes rigid or stiff & the movements of neck are hampered.

The stiffness of neck is a result of contaminated Vata loading in the cervical region. Apart from Svatantra Vyadhi, it is also a symptom in Mashtishka Avarana Shotha. In initial stage of Manyastambha Vata & Kapha Doshas are involved but when it becomes chronic it becomes Vata Vyadhi only.

Paribhasha[18]

Manyastambha is described as Urdhvajatrugata Vyadhi (supraclavicular region) & one of the Nanatmaja Vata Vyadhi. Besides Vata, Kapha Dosha is also conjoined. Vata is contaminated either because of Kaphavarana or Dhatukshaya. Vata is

contaminated & loaded in Kapha Sthana so involvement of Kapha Dosha can occur. At initial stage of Manyastambha the Kaphanubandhatwa is acknowledged but when it becomes chronic, it becomes as Vata Vyadhi only, which is degenerative condition in nature.

Manyastambha Vyadhi causes Manyashoola, Manyastambha, Gaurava & Chimchimayana in Manya Pradesh. According to Ayurvedic texts Diwaswapa (day sleeping), wrong postures, watching upward for long time are specific causes of Manyastambha.

Manyastambha comes under one of Nanatmaja Vata Vyadhi. It can be co- related with Cervical Spondylosis in modern medicine. Cervical Spondylosis is a common condition. It usually occurs in people of age 50 years or above. With the emergence of software technology in recent years, many young software users also developed Cervical Spondylosis. It is a degenerative condition of cervical spine that is mostly caused by changes in intervertebral discs. It may cause pressure on nerve roots with subsequent pain in upper limbs. When a disc prolepses then lateral compression of nerve roots occurs. The main signs & symptoms of Cervical Spondylosis are pain in the neck radiating to shoulder, upper arms, back of the head & hands. Any movement may provoke the pain, so patient try to hold the neck stiff. There may be muscle wasting, numbness & loss of sensation in arms, hands & fingers.

Nidana of Manyastambha

For occurrence of disease the main causative factor is called Nidana, which helps in the diagnosis & treatment of disease. Nidana Parivarjana is one of the important measures in Chikitsa. Manyastambha is one among eighty types of Nanatmaja Vata Vyadhi. There isn't much difference in the causative factors of Vata Vyadhi only due to the Samprapti Vishesha of deteriorate Vata will leads to variety of Vata Vaydhi like Ardita, Hanustambha, Manyastambha, Pakshaghata etc.

Table No. 1: Vata Vyadhi Samanya Nidana according to different Acharya.

Sr. No.	Nidana	C.S.[19]	S.S.	A.S.	A.H.[20]	M.N.[21]
1.	Alpabhojana	+	+	+	+	+
2.	Atichakramana	+	+	-	-	+
3.	Abhojana	+	+	-	-	+
4.	Ativyavaya	+	+	+	+	+

5.	Adhyashana	-	+	-	-	-
6.	Aharparinama Kala	-	+	+	-	+
7.	Attiuchya Bhashana	-	-	-	+	-
8.	Amajavyadhi	+	-	-	-	-
9.	Abhighata	+	+	+	-	-
10.	Atipurishakshaya	+	-	-	-	-
11.	Balavatvigraha	+	-	+	-	+
12.	Bhaya	-	-	+	-	-
13.	Chinta	-	+	+	-	-
14.	Dukkhashayya	+	-	-	-	+
15.	Diwaswapa	+	-	-	-	-
16.	Dhatukshaya	+	-	-	+	+
17.	Grishma, Varsha Rutu	-	+	+	-	-
18.	Katu Tikta Kashaya Rasa	+	+	+	+	+
19.	Kriyaatiyoga	+	-	-	+	-
20.	Klama	+	-	-	+	+
21.	Krodha	+	-	-	-	+
22.	Langhana	+	+	+	-	+
23.	Laghu Bhojana	+	+	+	-	+
24.	Maithuna	+	+	+	-	+
25.	Masura, Mudga, Nishpava Atisevan	-	+	-	-	-
26.	Marmaghata	+	-	-	-	+
27.	Plawana	+	+	-	-	+
28.	Ratrijagrana	+	+	+	-	+
29.	Ruksha Sevana	+	+	+	-	-
30.	Rogajanita Daurbalya	+	-	-	-	+
31.	Sheeta Sevana	+	+	+	+	+
32.	Sushka Shaka Mamsa Atisevana	-	+	-	-	-
33.	Shoka	+	-	+	+	+
34.	Shrama	-	+	-	-	-
35.	Sahsa	-	+	-	-	-
36.	Udvega	+	+	+	+	+
37.	Vegadharana	+	+	+	+	+
38.	Vishamasana	-	+	-	-	-

Table No.2: Vata Vyadhi Samanya Nidana.

Aaharaja[22]	Viharaja[23]	Mansika[24]	Anya[25]
Rushka	Ativyavaya	Chinta	Doshasrava
Sheeta	Atijagarana	Shoka	Raktasrava
Laghu	Ativayayama	Krodha	Dhatukshaya
Alpa	Langhana	Bhaya	Abhighata
Abhajana			Marmaghata

Table No. 3: Vishisht Nidana of Manyastambha according to different Acharya.

Sr. No.	Nidana	S.S.[26]	M.N.[27]	B.P.[28]	Y.R.[29]
1.	Asanasthana Vikruti	+	+	+	+
2.	Diwaswapa	+	+	+	+
3.	Urdhwa Nireekshana	+	+	+	+

Asanasthana Vikruti -

Postural disturbances specifically with reference to sitting or lying down leads to improper positioning of cervical vertebrae. It puts uneven pressure over the spinal nerve roots, induces distinct sings & symptoms. Therefore improper posture cause minor trauma & accelerates the pathology of degeneration leading to clinical features.

Diwaswapa -

Diwaswapa is defined by Bhavaprakasha "one who follows sleeping during day time & does Ratrijagrana".

Kapha Prakopa caused by Diwaswapa; which is included in initial stage of the disease more specific.

Urdhwa Nireekshana

Dalhana clarify that continuously looking upward is Vikruta position of Griva & it leads to minor trauma & precipitates the signs & symptoms.

Poorvarupa

There are no premonitory symptoms of Manyastambha mentioned in the 30 & 31 classics. For the Vatavyadhi Poorvarupa is Avyakta . That is not clearly manifested.

Roopa

The symptoms which exhibit a manifested disease are included under Roopa. A clear understanding of Roopa is unavoidable for proper diagnosis.

Table No. 4: Manyastambha Roopa according to different Acharya.

Sr. No.	Roopa	S.S.	M.N.	B.P.	Y.R.
1.	Manyastambha	+	+	+	+
2.	Manyashoola	+	+	+	+

Vyavachchhedaka Nidana -

Differential diagnosis or Sapeksha Nidana plays a basic role in appearing at an exact decision between diseases showing a similar clinical feature which help for the diagnosis & treatment.

Avabahuka Vishvachi

Table No. 5: Vyavachchhedaka Nidana of Manyastambha.

Parikshavidhi	Manyastambha	Avabahuka	Vishvachi
Nidana	Asanasthana Vikruti, Diwaswapa, Urdhwa Nireekshana	Vata Dosha, Pakopaka Hetu	Vata Dosha, Pakopaka Hetu
Poorvaroopa	Alpashoola at Manya Pradesha	Shoola at Manya, Bahu, Karna Pradesha	Shoola at Talam, Pratyanguli
Roopa	Shoola, Stambha	Shoola in Bahu, Manya, Prushta	Shoola start from Hasta Talam & up
Dosha	Vata, Kapha	Vata, Kapha	Vata
Vyaktasthana	Manya Pradesh	Bahu Pradesh	Hastatalam

Samprapti of Manyastambha

The process starts from Nidana Sevana to Vyadhi Vyaktavastha known as Samprapti.[33]

Because of Nidana Sevana Vata Dosha gets Prakupita that gets accumulated in Rikta Strotasas which leads to the various localized & generalized disease of Vata.

Samprapti of Manyastambha[24] is explained as due to Nidana Sevana Vata get perverted & get Kapha Avruta & takes Aashraya at Manya Pradesh affecting Manya Sira causing Shoola & Stambha in the back of neck.

Vata Dosha Prakopa Nidana revealed like Dhatukshaya that can be interpreted in terms of degenerative changes found in the cervical spine & disc which is resultant of ageing process explained in modern science.

Another one due to Margavarodha, the Nidana like Asanasthana Vikruti, Diwaswapa, Urdhwa Nireekshana & other Vata Vyadhi Nidana or Aamkara Nidana perverted Agni leads to Mandagni & generation of Aama causing Margavarodha. At initial stage involvement of Kapha Dosha occurs but latter on it becomes Vata Vyadhi only, that create complete compression of nerve root that occured due to osteophytes

changes & it generates various signs & symptoms that are found corporately which is considered as Manyastambha.

Flow chart No. 1

Manyastambha Samprapti[35]

Vata Dosha Karaka Nidana Sevana Vataprakopa

↓

Shleshmavarana (Kapha Sthana) Sthansamshraya in Manya Sira

↓

Kupita Vata Kapha Manyastambha

Samprapti Ghataka

Samprapti Ghataka means the factors involved in the pathogenesis of the disease.

Dosha : Vata - Vyana Vata, Kapha - Sleshmaka Kapha

Dushya : Asthi, Majja, Snayu, Mansa

Strotusa : Asthi & Majjavaha

Agni : Jatharagni, Dhatvagni - Asthi & Majja

Srotodushti Prakara : Sanga

Udhbhava Sthana : Pakvashaya

Rogmarga : Madhyamarogmarga

Vyadhi Svabhava : Chirkari

Vyadhi Sthana : Manya (Griva)

Samprapti Ghataka described -

Dosha -

In Manyastambha involvement of mainly Vata Dosha is seen because of Vata Prakopaka Nidana Sevana. Particularly Vyanavata is affected as it is responsible for all the movement of body part.

Particularly Sleshmaka Kapha involvement is found as it is situated in Griva Sandhi. Vata Dosha got perverted & got Kaphavruta & took Aashraya at Manya Pradesh affecting Manya Sira.

Dushya -

Perverted Doshas cause Dosha- Dushya Samurchana, which is essential for disease

production. This process perverted Doshas it also perverted the various Dushyas. In Manyastambha Dhatu involved are Asthi & Majja while, Snayu & Kandara which are the Updhatus are also involved.

Strotasa

The Strotasa involved in Manyastambha are Asthivaha & Majjavaha Strotasa respectively. Khavaigunya took in both of these Strotasa & the perverted Doshas are loaded in these Strotasa. The Sanga Strotodushti is found in these Strotasa.

Agni

Because of perversion of Vata Dosha in Asthi & Majja Dhatu, Agni Vaishamya of these Dhatu took place. In this way Asthi & Majja Dhatvagni got perverted in Manyastambha Vyadhi.

Udhbhava Sthana

Pakvashaya is the Mula Sthana of all the Vatika manifestation.

Vyakta Sthana

The perverted Doshas is localized in the Sandhi of Manya (Grivha) Pradesha. So Manya Pradesha is Vyakta Sthana in this Vyadhi.

Upashaya- Anupashaya

There is no Upashaya- Anupashaya mentioned in the classics for Manyastambha. Vata Vyadhi Upashaya can be applicable to Manyastambha. Abhyanga, Ruksha Swedana, Nasya, Ushna Ahara, avoiding wrong postures etc. are considered as Upashaya.

Some of the observations done during clinical trials are continuous stressful work, tensions, travelling, morning hours, over stretching of neck as Anupashaya for Manyastambha.

Sadhya- Asadhyata

Acharya Charaka explained that if disease is not chronic, without many complications & if patients Bala is good then it is Sadhya. The ailments of aged person are Kastha Sadhya. The disease situated in Asthimajjagata is Kastha Sadhya. As the chronicity increases then it becomes Asadhya.

Pathya- Apathya

General Pathya- Apathya of Vata Vyadhi can be followed, as Pathyapathya for Manyastambha are specific Pathya- Apathya isn't mentioned in classical texts.

Chikitsa of Manyastambha

Manyastambha is Vata Vyadhi so the treatment of Vata Vyadhi can be adopted but specific line of treatment is described for Manyastambha. The procedures & medicines to be adopted in the management of Manyastambha are as follows

Ruksha Swedana Kukkutanda

Swedana Nasya Karma

Panchamoola Qwatha, Dashmoola Qwatha Sewdana

Table No. 6: Chikitsa of Manyastambha according to different Acharya.

Sr. No.	Chikitsa	S.S.[36]	C.D.[37]	B.P.[38]	B.R. [39]	Y.R.
1.	Snehana	-	-	+	-	-
2.	Swedana	+	+	+	+	+
3.	Nasya	+	+	+	+	+
4.	Nasapanam	-	-	-	-	+

Acharya Sushruta, Bhavamishra, Yogratnakara indicated Ruksha Swedana & Nasya in general line of treatment. Nasya is the prime Chikitsa Karma by all Acharya. Snehana & Swedana are the Poorvakarma of Nasya Karma it is acted on both condition i.e. Dhatukshaya & Margavarodha in Manyastambha Vyadhi.

ANATOMY & PHYSIOLOGY OF CERVICAL SPINE

Cervical spine due to its position, complex structure & great mobility is vulnerable to injuries. It is a complex & vital region. Vital knowledge of cervical region is essential for physician, while dealing with the patients having the problems of cervical region. Hence, anatomy & physiology of cervical spine is described here Components of the structure of cervical spine:

1. Bony Structure
2. Musculature
3. Articulations
4. Neural &Vascular contents

1) Bony Structure

1. Typical Cervical Vertebrae

The body of typical cervical vertebrae is small & broader from side to side than from before backwards.The superior surface is concave transversally with upward projecting lips on each side. The inferior surface is saddle shaped being convex from side to side & concave from before backward. Vertebral Foramina is larger than the body. It triangular in shape because the pedicles are directed backward & laterally.

The transverse processes are pierced by Foramina Transvers. Each process has anterior & posterior roots which end in tubercles joined by the Costo transverse bar.The spine is short & bifid. The notch is filled up by the ligamentum nuchae.

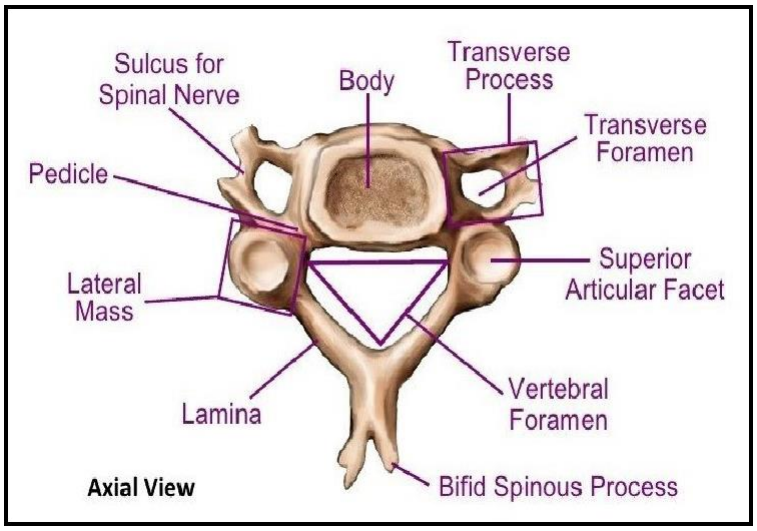

Fig. No. 1: Typical Cervical Vertebra.

2. Atlas-1 cervical vertebrae

The 1 cervical vertebra (C1) the Atlas is named for its support of the head.

It is ring shaped. It has neither a body nor a spine.

The Atlas has a short anterior arch, a long post- arch, right & left lateral masses & transverse process.

The anterior arch is marked by a median anterior tubercle on its anterior aspect. Its posterior surface bears an oval facet which articulates with the dens.

The posterior arch forms about two- fifth of the ring & longer than anterior arch. The upper surface of arch is marled behind the lateral mass by a groove.

Each lateral mass shows the following features -

a. Upper surface bears superior articular facet. It articulates with the corresponding condyle to form an Atlanto- Occipital joint.

b. The lower surface is marked by the inferior articular facet. It articulates with the corresponding facet on the axis vertebrae to form an Atlanto- Axial joint.

The transverse process project laterally from the lateral mass. It is unusually long & can be felt on the surface of the neck between the angle of mandible & the Mastoid process. The transverse process is pierced by the foramen transversarium.

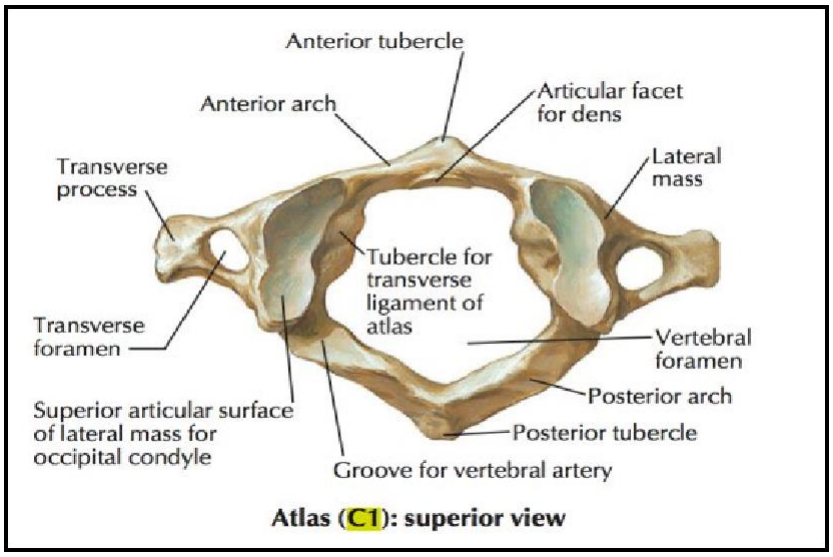

Fig. No. 2: Atlas Superior view.

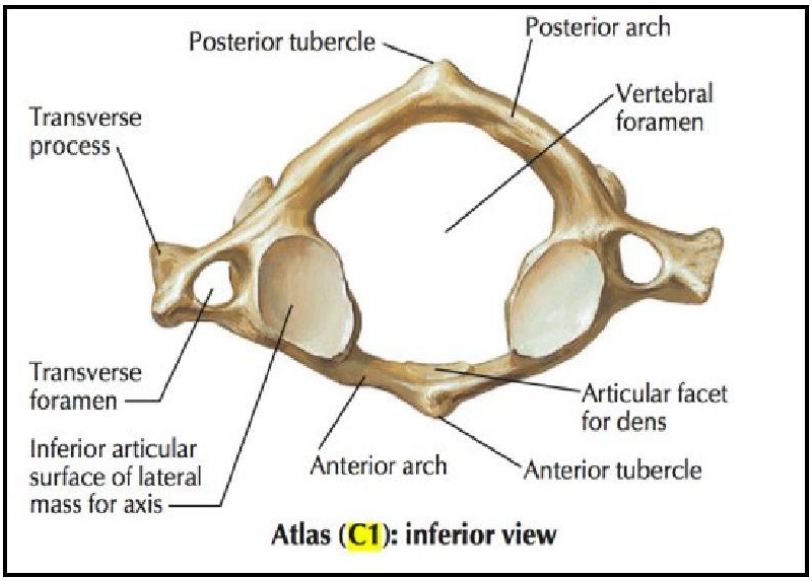

Fig. No. 3: Atlas Inferior view.

3 Second Cervical Vertebrae (Axis)

This is called as Axis. It is identified by the presence of the Dens or Odontoid process which is a strong tooth like process projecting upwards from the body.

The dens are usually believed to represent the Centrum or body of the atlas.

Body & dens - The superior surface of the body is fused with dens & is encroached upon on each side by the superior articular facets.

The dens articulated arterially with anterior arch of atlas & posteriorly with the transverse ligaments of the atlas.

The inferior surface has prominent anterior margin which project downwards. The anterior surface presence a median ridge on each side of which there is hollowed out impressions.

The lamina is thick & strong.
The transverse process is small very & represents the true posterior tubercle only.
The spine is large, thick & very strong. Superior articular facet & inferior articular facet present.

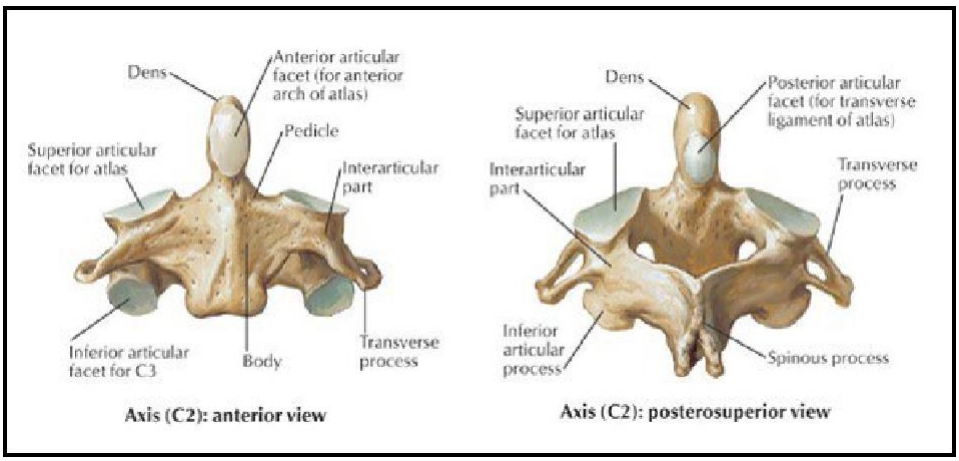

Fig. No. 4: Axis Anterior & Posterosuperior view.

4 Seventh Cervical Vertebrae -

It is also known as the vertebrae prominens because of its long spinous process, the tip of which can be felt through the skin at the lower end of the nuchal furrow.

Its spine is thick, long & nearly horizontal. It is not bifid but ends in a tubercle.

The transverse process are comparatively large in size, the posterior roots are larger than anterior.

The anterior tubercle is absent. The foramena transversarium is relatively small, sometimes double or may be entirely absent.

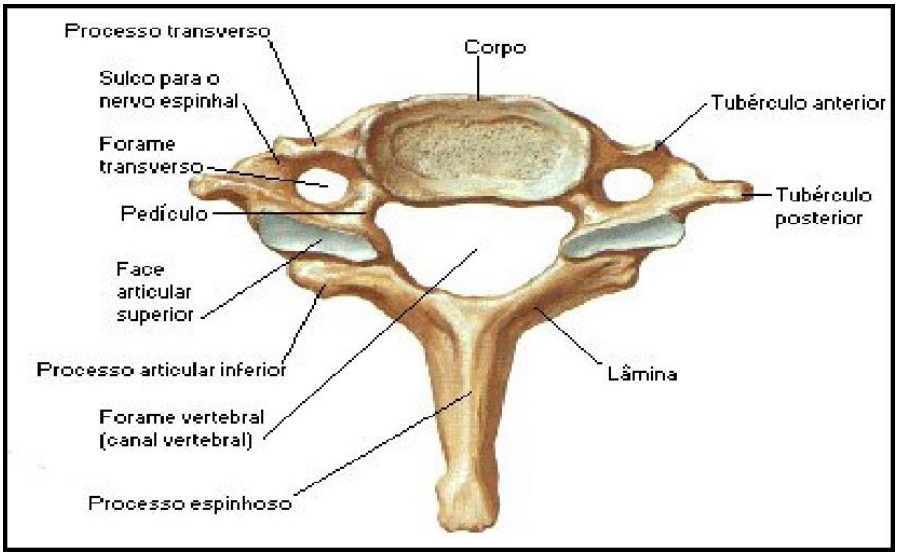

Fig. No.5: Seventh Cervical Vertebra.

2) Musculature of neck -

The muscles of the neck are grouped according to their position. This group are as follows

1. Superficial & lateral cervical muscles
2. Anterior vertebral muscles
3. Lateral vertebral muscles
4. Deep muscles of the back of the neck
5. Sub- occipital muscles.

1. Superficial & lateral cervical muscle

Table No.7.

Sr. No.	Muscle	Actions
1.	Platysma	Draws outer part of overlip downward & upward
2.	Trapezius	Draws the head backward & laterally when shoulder is fixed, Control the position & movement of scapula, elevates, rotates & retract scapula
3.	Sternocleido Mastoid	Contraction of both muscles flex is the cervical spine & draws head forward, contraction of muscle rotate face toward opposite side

2. Anterior Vertebral muscle

Table No. 8.

Sr.No.	Muscle	Action
1.	Longus colli	Flexes neck forward & laterally, rotate it opposite side
2.	Longus capitis	Flexes the head
3.	Rectus capitis anterior	Flexes the head
4.	Rectus capitis lateralis	Flexes the head same side

3. Lateral vertebral muscle

Table No.9.

Sr. No.	Muscle	Action
1.	Scalenus anterior	Flexes the cervical spine forward & laterally
2.	Scalenus medius	Flexes the cervical spine on same side
3.	Scalenus posterior	Flexes the cervical spine on same side

4. Deep muscles of the back of neck

Table No.10.

Sr. No.	Muscle	Action
1.	Splenius capitis	Acting together they extend the head & neck, acting slightly each laterally flexes & rotates head to same side
2.	Splenius cervicis	Acting together they extend the head & neck, acting slightly each laterally flexes & rotates head to same side
3.	Lliocostalis cervicis	Extends cervical region of vertebral column
4.	Longissimus capitis	Extends head & rotates it to same side
5.	Spinalis capitis	Extends vertebral column
6.	Semispinalis capitis	Extends the head, turns the face slightly to opposite side.

5. Sub- occipital muscle

Table No.11

Sr. No.	Muscle	Action
3.	Obliqus capitis inferior	Turns face towards the same side
4.	Obliqus capitis superior	Extends the head & flexes it laterally

3) Articulations

The vertebrae are articulated to one another by a series of cartilaginous joints between the vertebral bodies & a series of synovial joints between the vertebral arches.

Articulation of cervical spine is divided into two parts intervertebral articulations & articulation of vertebral column with cranium.

A) Intervertebral articulation –It is divided into 2 parts

1) Articulation of vertebral bodies
2) Articulation of vertebral arches.

1) Articulation of vertebral bodies

It includes anterior & posterior longitudinal ligaments & intervertebral discs.

a. Anterior longitudinal ligaments

Extends all over length of spine & stabilizes the intervertebral joints. It is attached, above to the basilar part of the occipital bone from which it extends to the anterior tubercle of the atlas, then to the front of the body of the axis & continues down up to the upper part of the front of the sacrum.

b. Posterior longitudinal ligaments

It is inside the vertebral canal on the posterior surface of the bodies of the vertebrae. Above it is attached to the body of axis & continues downwards to the sacrum. At cervical & upper thoracic levels, the ligaments are broad & nearly uniform in width.

c. Intervertebral discs

They are interposed between adjacent surfaces of vertebral bodies & are the chief bonds of connections between them. Each disc consists of an outer laminated portion, the annulus fibrous & inner core, the nucleous pulposus.

2) Articulation of vertebral arches

The joint between the articular processes of the vertebrae are synovial & of plane verity. The laminae, spines & transverse processes are connected by ligament flava, interspinous & inter transverse ligaments & the ligamentum nuchae regard as accessory ligament of these joints. Each has also an articular capsule.

B) Articulation of vertebral arches

It involves the paired Atlanto occipital joint & ligament connecting the axis & occipital bone.

a. Atlanto occipital joint - Each of the paired Atlanto occipital joints involves a superior articular facet of the lateral mass of the atlas & a condyle of the occipital bone. It is ellipsoid in type. The articular surface is reciprocally curved. Each

Atlantal facet is concave & tilted somewhat medially. The bones are united by the articular capsules & the anterior & posterior Atlanto occipital membrane.

b. Ligaments connecting the axis & occipital bone - The ligaments which connect the axis with the occipital bone are the membrane tectoria, the alar ligament, the apical ligament of the dens, ligamentum nuchae anterior longitudinal ligaments & posterior longitudinal ligament.

4) Neural vascular contents

Spinal cord is enclosed inside the cervical spine & vertebral arteries running parallel to it. They are the neural & vascular contents of cervical spine respectively.

Spinal cord is surrounded by Dura matter, which is firmly attached to the rim of foramen magnum superiorly.

The spinal cord is enlarged in size at C3 level expanding maximum up to 38 mm circumference at C6 level. Then it tapers down. This enlargement is due to the increased nerve supply to the upper limbs.

The dorsal sensory root enters in the spinal cord through the lateral longitudinal sulcus. Ventral motor root let exit the cord through ventral sulcus.

The 6 to 8 rootles all each level have the spinal medulla & are collected into single bundles as they pass through Dura matter. They form a nerve root at each level; they are all still covered by Dura matter. This nerve root is enlarged just outside the Dura matter.

Distal to intervertebral foramen, this root splits into the dorsal & ventral branches. These nerve roots of cervical spine pass almost directly laterally at each level to exit from the spinal canal at the same foraminal level.

Vertebral artery is the major source of blood supply for the cervical part of spinal cord & cervical spine. The vertebral arteries are originated from the subclavian arteries on each side. These arteries enter the foramen transversaria of C6 & ascend to the atlas, where they wind posteriorly around the lateral masses of the atlas & pass through the posterior atlanto- occipital membrane. From there anteriorly they pass upward through the foramen magnum. These two cerebral arteries come together just after passing to

the foramen magnum to become the basilar artery. Just prior to joining to form the basilar artery, vertebral artery gives two branches namely anterior & posterior spinal artery. They supply anterior & posterior portion of spinal cord respectively.

CERVICAL SPONDYLOSIS

Definition -

Cervical Spondylosis[42] is a degenerative condition of the cervical spine.

There is degeneration of inter- vertebral disc, with its protrusion & bony overgrowth of adjacent vertebrae causing compression of roots, cord or both. Occasionally it is associated with non- compressive myelopathy consequent to vascular degeneration (API medicine).

Aetiology -

Factors, which affect the development of cervical Spondylosis, include age, sex, occupation, posture, etc. are discussed here.

Age -

Disease process which includes degenerative changes is already present from 40 years of age. As age advances they become more prominent. After 50 years of age, almost all subjects are likely to present some spondylotic changes in their spine (M.D.I.D. of Bones & Joints). Thus age plays an important role in the pathogenesis of cervical Spondylosis.

Sex -

Incidences of sponylotic changes are found more in male. But the difference between male & female ratio is very less. These findings are probably related to physical work particularly into women doing heavy work could be expected to show relatively high incidences.

Occupation -

Gantenberg, in a survey of a large series of cases found that in miners there was high incidence of Spondylosis followed by factory workers. Excessive movement of particular area initiate degenerative changes & ultimately leads to Spondylosis.

Trauma -

Trauma especially in cervical region may play an important role in causing of cervical Spondylosis. Exertion, regular travelling for long distances especially on bad roads, strain full movements etc. also cause trauma in cervical spine.

Posture -

Wrong posture, use of cushy pillows & soft bed are also considered in the aetiological factors. Incorrect positioning of the head in bed, especially while lying on the tummy with the head turned to one side develops a stiff neck in some patients. Fast mechanical life full of tension; lack of exercise etc. factors are also included in the aetiological factor.

Pathogenesis -

Basically this is compound effect of the following processes In initial, change is decrease in the water content of the nucleus pulposus, the central portion of the disc. As the disc dehydrates, it decreases in height & has less ability to resist loading & stress. Disc degeneration leading to its thinning & protrusion of the nucleus pulposus posteriorly or herniation through fear in the fibrous annuluses laterally; posterior herniation tends to produce compression of the spinal cord & lateral bulging produces compression of roots.

Osteophytic spur formation on the posterior aspect of the vertebral body leading to the 'spondylotic bar', which the core pathology is resulting in a horizontal compression of the anterior aspect of the cord. Osteophytic extension of the bar, laterally associated with articulatory hypertrophic changes or encroachment of the intervertebral neural foramina by osteophytes developing from the rim of the foramina, often cause additional entrapment radiculopathy. Anterior ostephytic spur formation is usually symptom less but occasionally produces dysphagia.

Partical sublaxation of vertebrae causing impinging of osteophytes on the nerve roots during movement of the neck.

Hypertrophy of the dorsal spinal ligament & dorsilateral facet articulation or bucking of the dorsal spinal ligament particularly during extension of the neck. All these may cause further narrowing of the sagittal diameter of a spinal canal, which might have

been congenitally narrow.

Encroachment of the vertebral foramina where the vertebral artery is lodged producing compromise of the arterial lumen & significant vetebro- basilar ischaemia, leading to brainstem signs like vertigo, tinnitus, intermittent blurring of vision & occasionally episodes of retroocular pain. This apart, the architectural pattern of the vasculature of the cervical cord may further affect thecord lesion significantly.

Presence of congenital spinal canal stenosis; although the radiographic findings of Spondylosis are fairly common in the elderly, patients develop myelopathy or Radiculopathy only if spondylotic changes are associated with congenitally narrow canal or foramina. If the shortest AP diameter is 13 mm or greater, it is unlikely that spondylotic changes are the cause of cord compression.

Clinical Features -

The symptoms are related to the spine itself, root compression, cord compression, combined root & cord compression, vascular insufficiency.

Spinal symptoms -

Neck pain, medial scapular pain & shoulder pain probably originate in the disc & spine.

Root compression (Radiculopathy) -

The range of movement is reduced particularly during rotation & lateral movement of the head. Pain starts from the Trapezius ridge (C4), tips of the shoulder (C5), anterior part of the arm (C6), radial forearm (C6) & often the thumb (C8) or all the fingers (C6, C7, C8). The pain worsens with movement of the neck, coughing or sneezing or straining. The clinical signs are motor weakness & wasting of proximal muscles or small muscles of the hand depending on the roots compressed. In addition, there is also areflexia & redicular sensory impairment.

Sometimes L'hermitt's sign or 'barber's chair sign' can be elicited; this consists of tingling in all four limbs or electric shock like feelings down the back on flexing the neck. The roots most often affected are, in order, C6, C7, & C5, C6, C8 & D 1 are infrequently affected. Occasionally, the shoulder hand syndrome or the so called frozen shoulder ensues if symptoms are unattended for some time.

Compressive cervical myelopathy

This condition occurs less frequently than root syndromes. There is some evidence that the patient has to be predisposed to compression by a congenitally narrow canal (Cervical canal stenosis) & usually presents with a progressive spastic paraparesis; later, bladder & bowel involvement is added to sensory impairment with a level.

Combined root & cord compression -

In a few cases, clinical features of both radiculopathy & myelopathy are combined. In such a combined lesion occurring at C5 level, the C5 root is compressed by lateral protrusion & the cord below this level is compressed by medial lesion. The reflexes are asymmetrical, with classically absent or decreased supinator & exaggerated triceps jerks; occasionally an inverted supinator jerk is elicited when on testing for supinator response, there is finger flexion in the absence of the normal supinator response, indicating a lesion of C5 with myelopathy below.

Vascular insufficiency -

Sometimes a completely different category of symptoms may occur, viz. evidence of vertebro- basilar insufficiency. This may be due to permanent narrowing or kinking of the vertebral artery due to inter- vertebral foraminal encroachment by ingrowing osteophytes from the bony wall of the vertebral canal; it may produce intermittent or perpetual vertigo. Neck movement may initiate or exacerbate vertigo by temporary compression of the vertebral artery leading to further insufficiency. The other symptoms like tinnitus, visual blurring, etc. have already been referred too. As discussed earlier, there may be a non- compressive myelopathy due to compromised vasculature. In such cases, pain is usually absent & myelography fails to reveal any spinal block; this is sometimes referred to as cervical myelopathy (or cervical spondylotic myelopathy).

Nystagmus, though rare, is sometimes seen & is probably due to involvement of the posterior longitudinal bundle in a high cervical lesion.

Differential Diagnosis -

Disc protrusion in the young is more due to trauma when non compressive Myelopathy is more predominant.

A painless central disc lesion may stimulate amyotrophic lateral sclerosis, which is usually associated with quadriparesis, frank pyramidal signs, fasiculations, bulbar involvement & absence of sensory involvement. Presence of lower motor neuron signs in the lower limb due to associated lumbar Spondylosis may add to the difficulty in diagnosis.

Multiple sclerosis starts at a young age, has hardly sensory level or wasting of muscles, with cerebellar signs & involvement of other cranial nerves.

Occasionally, nagging pain in the inner side of the forearm may be cardiogenic ischaemic pain masquerading as cervical Spondylosis, & vice versa.

In India, tuberculosis of the spine is important in differential diagnosis; although thoracic & lumbar vertebrae are more often affected than cervical, this diagnosis is to be considered especially in younger age group presenting with neck pain.

Investigation -

A plain X- ray of the cervical spine is helpful. There is impairment of natural cervical lordosis, reduction of intervertebral spaces, osteophytic projection leading to distortion & encroachment of intervertebral foramina (in appropriate oblige view) & shortening of AP diameter of the cervical canal in few cases.

For demonstration of compressive myelopathy, a contrast myelogram is necessary. It shows the presence of multiple disc protrusions as a negative indentation of the contrast column or total extradural obstruction.

CT scan with or without contrast is preferred if available. MRI is another useful mode of investigation.

Treatment -

Conservative treatment with analgesics & non- steroidal, anti- inflammatory agents, supplemented by physiotherapy is quite sufficient in a majority of cases. The latter includes cervical traction, short- wave diathermy or ultrasonic irradiation, static & dynamic neck exercises & cervical collar to reduce neck movements.

Diabetes mellitus, which is known to predispose to ontrapment neuropathy, should be carefully controlled if present. In intractable root pain, formainotomy & in compressive myelopathy, surgical decompression or removal of spondylotic bars in selected cases, with or without spinal fusion has been successful in trained hands.

Surgery

Surgery is recommended to relieve compression of spinal nerves or the spinal cord if severe pain doesn't improve with more conservative treatment or if neurological symptoms, such as weakness in arms or legs, are getting worse. The surgical procedure will depend on underlying condition, such as bone spurs or spinal stenosis.

NASYA

Historical Review of Nasya –

Riga- Veda -

Indian culture starts from Vedic time. Although it's very difficult to say that the procedure of Nasya Karma was in practice in Vedic period, but the few Mantras of Riga- Veda directly refers towards the Karmas which included in Panchakarma measures. There were Mantras of Riga- Veda, in which eradication of Roga from the roots of Shira (head), Nasa (nostrils), Chibuka (Chin), Rasana (Tongue) & Karna (Ears) are mentioned (Ru.10-16-4).

Yajura- Veda & Upanishad -

The term Nasya Karma had been used many times in Krishna Yajura- Veda, Shatapatha Brahmana & Upnishada.

Buddha Kala -

In Buddha Kala, there were some stories (Jataka stories) about the famous Vaidya 'Jivaka'. He used several times Nasyakarma such as he prescribed medicated Gruta for the treatment of Shirahshula for Nasya Karma to the wife of Shreshthi of Saketa Nagara.

Etymology of Nasya -

In Sanskrit language each word is derived from a specific Dhatu & each Dhatu bears an inherent meaning. The derivation of the word Nasya is from 'Nas' Dhatu. In Vachaspatyam it has given the two meaning of 'Nas' Dhatu, first Gati means motion

& second Vyapti bears the meaning pervasion. Here, the 'Nas' Dhatu is inferred for nose. According to Vachaspatyam word 'Nasta' means beneficial for nose. According to Monier Williams the meaning of Nasya is belonging to nose or being in the nose. Thus the beneficial things pertaining to nose or a conductive thing administered through nose is known as 'Nasya'.

Definition of Nasya -

In Ayurveda, the word Nasya suggests the nasal route for administration of various drugs. As per Acharya Sushruta, administration of medicated oils or medicine through the nose is known as Nasya. Arunadatta & Bhavaprakasha[1] opine that all drugs that are administered through the nasal passage are called Nasya. Sharangdhara & Vagbhata also has the same view[2]

Nasya Synonyms -

Murdhavirechana

Nastahkrama

Navana Shirovireka

Shirovirechana

Classification of Nasya -

Nasya is classified in various ways by different Acharya. Each classification has its own features.

Table No. 12: According to mode of action by different Acharya.

Sr. No.	Name of Acharya	Types	Classification
1	Charaka[3]	3	Rechana,Tarpana, Shamana
2	Vagbhata[4,5]	3	Virechana, Bruhana, Shamana
3	Kashyapa[6]	2	Bruhana, Karshana
4	Sharangadhara[7]	2	Rechana, Snehana
5	Bhavaprakasha[8]	2	Bruhana, Karshana
6	Bhoja[9]	2	Prayogika, Snehika
7	Videha[10]	2	Sanjna Prabodhaka, Stambhana

Table No. 13: According to method of administration by different Acharya.

Sr. No.	Name of Acharya	Types	Classification
1.	Charaka[11]	5	Navana, Avpidana, Dhmapana, Dhooma, Pratimarsha
2.	Sushruta[12]	5	Nasya, Shirovirechana, Pratimarsha,

			Avapidana, Pradhamana
3.	Chakradatta[13]	5	Navana, Avpidana, Dhmapana, Dhooma, Pratimarsha
4.	Vangasena[14]	5	Navana, Avpidana, Dhmapana, Dhooma, Pratimarsha

Table No. 14: According to dose of Sneha Dravya used by different Acharya.

Sr. No.	Name of Acharya	Types	Classification
1	Vagbhata[15,16]		
2	Chakradatta[17]		
3	Vangasena[18]	2	Marsha & Pratimarsha
4	Sharangadhara[19]		
5	Bhavaprakasha[20]		

Table No. 15: According to various parts utilized.

Sr. No.	Name of Acharya	Types	Classification
1	Charaka[21]	7	Phala, Patra, Moola, Kanda, Pushpa, Niryasa, Twaka

Analysis of classification of Nasya Krama -

It is clear from the previous table that classification of Nasya Karma is based on 4 criteria in Ayurvedic texts.

Based on the pharmacological action viz. Bruhana, Rechana, Tarpana etc. Based on the preparation of drug & the method of its application e.g.

Dhmapana (Powder is blowed), Avapida (Extracted Juice is used), Dhooma (Smoking through nose), Navana (Oil/ Ghrita is used).

Based on the various parts of drug used e.g. Phala, Patra, Moola, Tvaka etc. Based on the dose of Sneha Dravya used i.e. Marsha & Pratimarsha.

Charaka has classified Nasya under 3 different categories viz. mode of application, mode of action & parts of drug used. Navana is further divided into Snehana & Shodhana, Avapida into Shodhana & Stambhana, Dhooma into Prayogika, Vairechanika & Snaihika while Pratimarsha is divided into Snehana & Virechana.[22] Dhooma as a type of Nasya is mentioned by Charaka.

According to Sushruta, Nasya is of 5 types viz. Nasya, Avapida, Pradhamana, Shirovirechana & Pratimarsha based on the mode of application as shown in table. These 5 types of Nasya are further classified according to their action into 2 group viz.

Shirovirechana & Snehana. Shirovirechana, Avapida & Pradhamana are used for Shirovirechana purpose i.e. for the extration of morbid Doshas from Shira while Pratimarsha & Nasya may be used for Snehana.[24,25]

Ashtangasamgraha & Ashtangahridaya mainly classified Nasya according to its effect viz. Virechana, Bruhana & Shamana already shown in table. Nasya have been further subdivided according to the dose of oil used into 2 groups i.e. Marsha & Pratimarsha. Avapida Nasya may be given for both Virechana & Stambhana while Pradhamana Nasya is given only for Shirovirechana according to Vagbhata.

Sharangadhara has also classified Nasya according to their function into 2 groups Rechana & Snehana. Rechana Nasya is further subdivided into Avapida & Pradhamana while Snehana Nasya is subdivided into Marsha & Pratimarsha.[26]

Chakradatta, Vangasena, Bhavaprakasa have classified Nasya according to mode of action & also according to the quantity of Sneha used i.e. Marsha & Pratimarsha.

Dose of Nasya Krama -

Marsha & Pratimarsha is only classification available according to the dose of Sneha Dravya (medicine) used for Nasya. Mainly Nasya medicine is used in 3 state forms. For these 3 different forms irrespective of medicinal properties the dose has been mentioned by Acharyas.

1) Solid state (Choorna) Dose -

3 Mucchuti (1 Mucchuti = The Choorna which may come in between index finger & Thumb finger) for Pradhamana & Shukti (24 gm) for Potali[27] 1 Kola (6gm) for Pradhamana method.[28]

2) Gaseous state (Charaka has mentioned the Dhooma as the type of Nasya) Dose

2 puffs are to be taken for Prayogika Dhooma. 3 to 4 puffs are to be taken for Vairechanika Dhooma. A single puff is advised for Snehika Dhooma.[29]

3) Liquid state (Svarasa, Kvatha, Asava, Sneha etc.) Dose –

Charaka has not mentioned specific dose for liquid form of medicine to be used in Nasya. Only for Anu Tail; Charaka mentions the dose as ½ Pala[30] (24ml) & for Pratimarsha it is Snehanguli.[31]

Except Charaka, all other Acharyas have mentioned Bindu Pramana for deciding the dose of Drava- Dravya used for Nasya.

It is clear that for all the forms, a specific dose is mentioned by Acharyas, where Bindu is the unit of measurement for the dose of Drava- Dravya to be used in Nasya.

Table No. 16: Does of various Nasya Prakara.

Sr. No.	Nasya Prakara	Uttama Matra	Madhyama Matra	Heena Matra
1.	Shamana Nasya	32 Bindu	16 Bindu	8 Bindu
2.	Shodhana Nasya	8 Bindu	6 Bindu	4 Bindu
3.	Avapida Nasya (Kalka Nasya)	8 Bindu	6 Bindu	4 Bindu
4.	Pratimarsha Nasya	2 Bindu	2 Bindu	2 Bindu
5.	Marsha Nasya	6 Bindu	8 Bindu	10 Bindu

Classical Concept of Bindu -

The term Bindu was first introduced by Sushruta in the context of dose of Sneha Nasya[32] Except Charaka all other Acharya used the term Bindu as the unit of measurement for any medicine in liquid form used for Nasya.

Definition of Bindu -

Bindu is the unit of measurement & is defined as the quantity of Drava (Sneha, Svarasa etc.) that dribbles down when the first two parts of index finger (Patient's) are dipped into it & taken out.[33]

The comment on this by Hemadri proves beyond doubt that not just the first drop is one Bindu, but it is the total quantity dribbling down from the index finger (Patient's) when immersed in the liquid should be considered as one Bindu.[34]

Bindu Pramana for Kvatha, Svarasa, Aasava, Kalka etc. -

Here the dose is explaind as 8 Bindu, 6 Bindu & 4 Bindu as Uttama, Madhyama & Heena Matra[35] respectively. Sushruta, Sharangadhara, Bhavaprakasha, Vangasena holds the same opinion.

Bindu Pramana for Sneha Nasya Ashtangasamgraha has first classified Sneha Nasya into 2 types depending on the Bindu.

Marsha Nasya

Pratimarsha Nasya

Concept of Marsha Nasya -

For Sneha Nasya the term Marsha was first time introduced by Ashtangasamgraha & for Sneha Nasya, Charaka has used the term Navana whereas Sushruta used the term Nasya.[36]

Sushruta hasn't classified Nasya depend ing on the dose of Sneha used, but he has mentioned 3 different doses for Sneha Nasya. For Pratimarsha Charaka & Sushruta hasn't mentioned any specific dose, but the definition of Pratimarsha is similar as that of Ashtangasamgraha; Vagbhata has mentioned 3 different doses for Marsha Nasya (Sneha Nasya) according to Dosha & Bala of patients.

Table No. 17: According to Vagbhatacharya does of Marsha Nasya.

Samhita	Uttama Matra	Madhyama Matra	Heena Matra
Ashtangahridaya[37]			
Ashtangasamgraha[38]	10 Bindu	8 Bindu	6 Bindu

In Sushruta Samhita the dose is mentioned as, 8 Bindu, Shukti & Panishukti, that are Heena, Madhyama & Uttama Matra respectively. Dalhana comments that Heena Matra 8 Bindu is to be instilled in each nostril. He says that Shukti is 32 Bindu & Panishukti is 64 Bindu.

Table No. 18: According to various Acharya does of Marsha Nasya.

Acharya	Uttama Matra	Madhyama Matra	Heena Matra
Sushruta[39]			
Chakradatta[40]	64 Bindu	32 Bindu	16 Bindu
Sharangdhara[41]	(8 Shana)	(4 Shana)	(2 Shana)
Vangasena[42]			

As from above explanations it is evident that for Drava- Dravya, Bindu is the unit & it is measured by patient's first two parts of index finger. Thus the quantity of 1 Bindu may vary from person to person as the size of the index finger is not same. The quantity of Bindu also varies according to the Drava- Dravya used for the Nasya.

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Drava- Dravya used for Nasya. Such an attempt of Standardization of Bindu for Sneha Nasya/ Marsha Nasya was at first successfully done by Sharangadhara.

Critical Analysis on standardization of Bindu in the context of Marsha Nasya –

Sharangadhara has stated that, 8 Bindu is equals to 1 Shana & further the dose of Marsha Nasya is described in multiples of Shana itself; as 8 Shana, 4 Shana & 2 Shana for Uttama, Madhyama & Heena Matra.

According to Sharangdhara 1 Shana = 4 Masha
4 Masha = 4 gm = 4ml (Ayurvedic Formulary of India)
Thus, 8 Bindu = 1 Shana = 4 ml
1 Bindu = 0.5 ml
1 Drop = 0.05ml, (According to Ayurvedic Formulary of India) 10 Drops = 0.5 ml
1 Bindu = 10 Drops
It can be stated from the above explanation that standardized quantity of 1 Bindu for Marsha Nasya is 0.5 ml (10 Drops).

Analysis on dose of Marsha Nasya as per standardized Bindu -
As per above analysis dose for Marsha Nasya & Pratimarsha Nasya can be converted according to standardized quantity of Bindu as following Table No. 19 - Dose of Marsha Nasya as per standardized Bindu Pramana

Bindu	Drops	MiliLiter(ml)
1 Bindu	10 Drops	0.5 ml
2 Bindu	20 Drops	1 ml
6 Bindu	60 Drops	3 ml
8 Bindu	80 Drops	4 ml
10 Bindu	100 Drops	5 ml
16 Bindu	160 Drops	8 ml
32 Bindu	320 Drops	16 ml
64 Bindu	640 Drops	32 ml

Classification of Marsha Nasya -

Charaka[45] has used the term Navana for Marsha (Sneha) Nasya & has classified Navana into 2 types,

Snehana

Shodhana

Same way Sushruta has used the term Nasya for Snehana Nasya[46] & Shirovireka Sneha for Shodhana Sneha.[47] Ashtangasamgraha[48] has explained that if Virechana Nasya is to be done for those who are Bheeta, Krusha & Sukumara; then Sneha Dravya prepared with Shirovirechana drugs should be used.

Ashtangahrudaya[49] has explained that all drugs which are mentioned for Brumhana, Shamana & Rechana can be used for Marsha Nasya by using the medicated oil.

Indication where Nasya Karma is used by Charakacharya[50]

Shirastambha
Manyaastambha
Ardhavabhedaka
Vakgraha Shirahshoola
Greevaaroga
Akshishoola
Svarabheda
Shukla Roga- Netragata
Galashundika
Raji
Galashalooka
Timira
Galaganda
Vartmaroga
Upajihvika
Peenasa
Gadgadatva
Nasashoola
Ardita
Dantastambha
Apatantraka
Dantashoola
Apataanaka
Dantaharsha
Karnashoola

Dant Cala

Arbuda

Hanugraha

Skandharoga

Mukharoga

Amsasoola

Contra- Indication of Nasya Karma -

Those who are not fit for Nasya Karma are called as "Anasyarha". In general, Nasya should not be given on Durdina, Rainy Day or in Pratikul Rutu.

Table No. 20: Contra- Indication of Nasya Karma by different Acharya.

Sr. No.	Anasyarha	51 C.S.	52 S.S.	53 A.H.
1.	Bhuktbhakta	+	+	+
2.	Ajirni	+	+	-
3.	Peeta Sneha	+	+	+
4.	Peeta Madya	+	+	+
5.	Peeta Toya	+	+	+
6.	Snehadi Patukamha	+	-	+
7.	Snataha Shiraha	+	-	+
8.	Snatukamha	+	+	+
12.	Murcchita	+	-	-
13.	Shashtrdandhrita	+	-	-
14.	Vyavayklanta	+	-	-
15.	Vyayamklanta	+	+ (Shranta)	-
16.	Panklanta	+	-	-
17.	Navjwar Pidita	+	-	-
18.	Shokabhitapta	+	-	-
19.	Virikta	+	-	+ (Shudha)
20.	Anuvasita	+	+ (Dattabasti)	+ (Dattabasti)
21.	Garbhini	+	+	-
22.	Navpratishyayarta	+	-	-
23.	Aptarpita	-	+	+ (Shudha)
24.	Peetadravha	-	+	+
25.	Trushnarta	+	+	-
26.	Gararta	-	+	+
27.	Krudha	-	+	-
28.	Bala	-	+	-
29.	Vrudha	-	+	-
30.	Vegavrodhitah	-	+	+ (Vegarta)
31.	Raktstravita	-	-	+
32.	Sutika	-	-	+
33.	Shvaspidita	-	-	+
34.	Kaspidita	-	-	+

Suitable Time for Nasya Karma -

According to Charakacharya, Nasya should be given in Pravruta, Sharad & Vasanta Rutu. However in emergency it can be given in any season by providing artificial conditions ofthe above mentioned seasons e.g. in winter, by maintaining hot surroundings such as doing more Swedana etc.

Time schedule in different Rutu – Rutu Nasya timing

According to Charakacharya

Greeshma - Morning

Sheeta - Noon

Varsha - When day is not cloudy

According to Vagbhatacharya[55]

Sharada + Vasanta - Morning

Shishira + Hemanta - Noon

Greeshma + Varsha - Evening

Time for Nasya according to Dosha predominance[56] - Doshaja Vikara Nasya timing

Kaphaja Vikara – Morning Pittaja Vikara - Noon

Vataja Vikara – Evening

Vagbhata & Sharangadhara Acharya have described similar timings as Sushrutacharya. Nasya can be given at night if the patient is suffering from Lalastrava, Supti, Pralapa, Pootimukha, Ardita, Karnanadi, Shiroroga.[57]

Sharangadharacharya explain that conditions if excessive perverted Doshas are present then Nasya can be done even at night.[58] According to Ashtangasamgraha if Nasya is to be given as a part of performing the complete Panchakarma then; it should be given after Basti Karma[59] also.

Nasya Karma course –

Table No. 21: Nasya course according to different Acharya.

Sr. No.	Name of Acharya	Days
1.	Charaka	7
2.	Sushruta	7 to 21
3.	Ashtangasamgraha	5, 7, 9
4.	Ashtangahrudaya	7

Charaka[60]

Charakacharya hasn't explain specific duration of the Nasya Karma, but instead suggested to give it according to the severity of disease. Charaka in the context of Dinacharya has explained that Anu Taila Nasya should be done on alternate days for total 7 days.

Sushruta[61]

According to Sushrutacharya Nasya Karma may be given repeatedly with the gap of 1 or 2 days for 7 to 21 days depending upon the condition & disease patient suffers.

Vagbhata[62,63]

Nasya Karma should be given for 5 days, 7 days & 9 days or till the patient shows the symptoms of Samyaka Nasya as stated in Ashtangasamgraha.

Ashtangahrudaya has explained that Nasya Karma can be done for total 7 days but on alternate days. Nasya Karma should be given in morning & evening for 7 days, in Vataja Shiroroga, Hikka, Apatanaka, Manyastambha & Svarabhramsha.

Age limit for Nasya Karma

Nasya Karma can be done from age of 7 yrs to 80 yrs according to Ashtangahrudaya[64] & according to Sharangadharacharya[65] it can done from the age of 8 yrs to 80 yrs.

Sneha Paka for Nasya Karma

Sushrutacharya[66] has mentioned Madhyama Paka for Nasya Karma while all the other Acharya have explained Mrudu Paka[67,68,69,70]

.

Concept of Pratimarsha Nasya - Definition -

The dose which inhaled deeply after Nasya reaches up to the throat, as[71] such medicine doesn't come out is said to be Pratimarsha.

The Sneha should be in such an amount that it reaches from nose to gullet butshould not be enough to produce secretions in gullet.[72]

Dose

It is given as 2 Bindu in each nostril. Thus Pratimarsha Nasya is 20 drops in[73] each nostril (1ml).

Pratimarsha Lakshana Traya[74]

1. Having dose of 2 Bindu
2. Does not produce Utkleshana of Dosha
3. On expelling the Kapha after Nasya the medicine as such can't be expelled out, i.e. the dose is only so much that it can be seen mixed with Kapha.

Indications

Varsha & Durdeena, Bala, Vruddha, Bheeru, Sukumara, Kshatakshama, Trushna Pideeta, Mukhashosha, Vali & Palita;[75] which means Pratimarsha can be given at any age, any season & any time.

Contra - indications -

Dushta Pratishyaya, Krumija Shiroroga, Badhirya, Bahudosha, Madyapi, Utklishtha Doshas[76]

It is contraindicated in such condition because the Sneha Matra is quite insufficient to eliminate Doshas or Krumi & already aggravated Doshas may get perverted further.[77] Sushruta & Sharangadharacharya have described 14 suitable Kala for Pratimarsha Nasya; while Vagbhata has mentioned 15 Kala. Pratimarsha Nasya is comparatively a safe procedure, it never produces any complication & by its virtue checks any disease process.[78] Marsha Nasya is quickly effective & more beneficial than its counterpart i.e. Pratimarsha Nasya.[79]

Table No. 22: Pratimarsha Nasya Kala according to different Acharya.

Sr. No.	Pratimarsha Nasya Kala	S.S.[80]	A.H.[81]	Sha.S.[82]
1.	Talpothita Kala	+	+	+
2.	Prakshalita Danta	+	+	+
3.	Grihannirgachchhata	+	-	+
4.	Vyayamottara	+	+	+
5.	Vyavayottara	+	+	+
6.	Adhvaparishranta	+	+	+
7.	Mutra Visarjanottara	+	+	+
8.	Mala Visarjanottara	+	+	+
9.	Kavalante/ Gandushante	+	+	+

10.	Anjanante	+	+	+
11.	Bhojanottara	+	+	+
12.	Chharditavata	+	+	+
13.	Divasvapnothitena	+	+	+

1. Poorva Karma (Pre operative) -

It is advisable that all materials, drugs & equipments like napkin, utensils necessary for Nasya Karma are collected in sufficient quantity prior to Nasya Karma.

Room

Special room for Nasya Karma should be prepared which should be free from direct blow of air or dust & it should be lightened properly.[83]

Seat

a. An armed chair for sitting

b. A cot/ Droni for lying

Medicine

Drugs required for Nasya Karma in the form of Kalka, Choorna, Kvatha, Ksheera, Udaka, Sneha, Asava etc. should be collected in sufficient quantity. Drug for managing any complications should also be kept ready.

Instrument

It should be collected according to the types of Nasya Karma such as.[84]

Pichu, Shukti Gokarna - For Svarasa, Kvatha, Avapeeda, Marsha & Pratimarsha Nasya Karma (any Drava- Dravya) Shadangula Nadi - For Pradhamana Nasya Dhooma Yantra - For Dhooma Nasya.

Besides it is also necessary that a stove, napkins, spitting pits & efficient assistants are made available.

Selection of the patient

The patient should be selected according to the indications & contra- indications of Nasya Karma described in classics.

Preparation of the patient

Patient should have passed his natural urges like urine & stool. He should have completed his routine activities.

Light food prior (2 hour) to Nasya Karma is advised.

Aacharya Sushruta[85] mentions Dantakashtha & Dhoomapana prior to Nasya Karma for the clearing of Strotasa.

Prayogika Dhoomapana should be done before Nasya Karma.[86]

Snehana & Swedana

After preparation of patient by above said regimens, Snehana & Swedana should be done. Here, Snehana means, Mrudu Abhyanga. It should be done on scalp, forehead & neck for 5 to 10 minutes with Tail. After Abhyanga, Mrudu Swedana should be done on Shira, Mukha, Nasa, Manya & Kantha.[87] While doing Swedana eyes should be covered with cotton or cloth so as to protect it from the steam.

2. Pradhana Karma (Operative) -

The procedure to be adopted for the Nasya Karma is described here as per the statements of Charaka,[88] Sushruta[89] & Vagbhata[90] Acharyas.

Posture of the Patient

Patient should lie down in supine position on Nasya table / Droni.

The head of the patient should be lowered (Pravilambita) manner in which tip of the nose was facing towards the roof of the room.

The position of head should not be excessively extended.

The leg should be slightly raised in parallel position at an angle of around 30 degree.

Preparation of the medicine for administration -

The medicine should be made warm over luke warm water & should never be heated directly.

Administration of medicine

Eyes should be covered with a clean cloth to prevent the spilling of medicine into eyes accidentally during administration.

The tip of patient's nose should be drawn upward by the left thumb of the physician. At the same time with the right hand physician should instill/ administer lukewarm (body temp) medicine in both the nostrils, alternately, with the help of proper instrument.

The drug should be proper in dose & temperature. As it is explained in classics in the context of Marsha Nasya that the medicine should be instilled[91] in continuous stream & not in drops & that too neither slow nor fast.

Practically to get the continuous stream of medicine it needs at least 2ml amount of Sneha.

The patient should remain relaxed at the time of administration of Nasya & patient should avoid speech, anger, sneezing, laughing & shaking of head.[92]

3. Pashchata Karma (Post operative) - Nasya Dharana Kala -

As per Sharangdhara[93] Nasya Dharana Kala is mentioned as 5, 7 or 10 Matra. This is the time elapsed in between instillation of medicine & Nishtheevana (spitting it outside). After administration of Nasya soles, shoulders, palms & ears should be massaged.

Nishtheevana after Nasya

Classical references suggest that Nishtheevana should not be done Sammukha (facing forward) it is advised to spit turning to either side; Tiryak Nishtheevana causes proper expulsion of Kapha. The patient is asked to expel out the drug which comes in oropharynx. Care should be taken that no portion of medicated oil is left behind.

Similarly Ashtangasamgraha states that, by Parshva Nishtheevana the medicine spreads properly to the targeted site, thus[94] Paarshva Nishtheevana is having dual advantage.[95]

Swedana after Nasya Karma

In Nasya more Swedana is mandatory after the instillation of medicine. Charaka states that after instillation of medicine Kapha get mixed with Sneha, by means of Swedana[96] it was get liquefied & expel out easily.

Vagbhata[97] is also having the same opinion regarding Swedana after Nasya. It is to augment the expulsion of Kapha itself.

This is in accordance to Ashtangasamgraha[98] reference which mentions that finally all Nasya are Vairechanika in nature due to common property of Shleshmavirechana in more or less amount. Thus the Swedana after Nasya is mandatory irrespective of the Brumhana, Virechana or Shamana action.

Dhoomapana, Kavala & other Parihara

Patient is asked to be in supine position up to 10 0 Matra i.e. approximately 1 minute after Nasya.

Medicated Dhoomapana & Kavala are advocated to expel out the residue mucous lodged in Kantha. Patient should be advised to stay in a windless place. A light meal.

Lukewarm water is advised. One should avoid dust, smoke, sunshine, hot bath, anger, riding over vehicle, excessive intake of fat & liquid diet.[99]

Aacharya Charaka[100] further says that the patient should avoid day sleep & should not use cold water for any purpose like Pana, Snana etc.

Ashtangasamgraha stated that all the Pathya- Apathya should be followed[101] like Snehapana.

Samyaka Yoga, Ayoga & Atiyoga of Nasya Karma -

After Nasya Karma the symptoms of its Samyak Yoga, Ayoga & Atiyoga, are described as follows:

Samyaka Yoga

Nasya is basically a Kapha Shodhana procedure irrespective of its Brumhana or Shamana effect. Thus the Samyaka Lakshnana mentioned for all types of Nasya is similar irrespective of their mode of action. Charaka has explained similar Samyaka Yoga for Snehana & Shodhana Nasya. Sushruta has explained Samyaka Lakshana for Virechana Nasya & Snehana Nasya separately but all the symptoms can be found in both the types of Nasya. Samyaka Yoga is explained in the classic in Charaka,[102] Sushruta,[103] Ashtangasamgraha,[104] Ashanghrudaya[105] & Sharangdhara[106] Samhita.

Table No. 23: Nasya Karma Samyaka Yoga Lakshana according to different Acharya.

Sr. No.	Samyaka Yoga Lakshana	C.S.	S.S.	A.S.	A.H.	Sha.S.
1.	Uraha Laghuta	+	+	-	-	+
2.	Shira Laghuta	+	+	-	-	-
3.	Indriya Laghava	+	-	-	-	-
4.	Akshilaghuta	-	-	-	+	-
5.	Srotovishuddhi	+	+	+	-	+
6.	Svaravishuddhi	-	-	+	-	-
7.	Vaktravishuddhi	-	-	+	-	-
8.	Indriya- Chitta- Prasada	+	+	-	+	+
9.	Indriya Shuddhi	-	+	+	+	-
10.	Sukhochchhavasanishvasa	-	+	+	+	-
11.	Vikarapashama	-	+	+	-	+
12.	Sukhasvapna Prabodha	-	+	+	+	-
13.	Laghava Manasha	-	-	-	-	+
14.	Manaha Sukham	-	+	-	-	-

Ayoga

Heena Yoga & Durvirikta is the synonym for Ayoga. Heena Yoga can happen when Kapha Shodhana is not done properly & its other presentation will be in the form of Vatakopa if proper Snehana is not attained. In some conditions along with Kapha Shodhana, if Snehana is not done properly then the presentation will be with Vata Kapha symptoms.

Many of the Virechana Ayoga (Heena Yoga) symptoms are similar to Sneha Atiyoga symptoms, because in both the cases perverted Dosha will be Kapha.

Virechana Heena Yoga, may cause Utklesha of Dosha but will not be enough to completely expel them out. This is more observed when Pratimarsha Nasya is done in Bahudosha condition.

In Sneha Nasya, elimination of Dosha is happening as it is basically a Shodhana procedure. But due to Heena Yoga, Kapha Utklesha was occur but was not be enough to expel it out, thus symptoms of Heena Yoga of Marsha Nasya & Virechana Nasya are very much similar.

Table No. 24: Nasya Karma Ayoga Lakshana according to different Acharya.

Sr. No.	Ayoga Yoga Lakshana[111]	C.S.[107]	S.S.[108]	A.S.[109]	A.H.[110]	Sha.s
1.	Shirogaurava	+	-	-	-	-
2.	Galopalepa	+	-	-	-	-
3.	Nishthivana	+	-	-	-	-
4.	Kandu	-	+	-	-	+
5.	Upadeha	-	+	-	-	+
6.	Indriya Rookshata	-	+	-	-	-
7.	Vata Vaigunya	-	+	-	-	-
8.	Guruta	-	+	-	-	+
9	Srotosam Kaphasanstrava	-	+	-	-	+
10.	Nasashosha	-	-	-	+	-
12.	Akshistabdhata	-	-	-	+	-
13.	Moordhashunyata	-	-	-	+	-
14.	Gadodreka	-	-	-	+	-
15.	Rogashanti	-	+	-	-	-

Atiyoga

Atiyoga symptoms for Marsha (Sneha) Nasya & Sodhana Nasya are explained separately in the classics. In Virechana Nasya Atiyoga symptoms of Vata Vruddhi are seen, while in Sneha Atiyoga, Kapha Vruddhi Lakshana is seen more. Marsha Nasya is basically to be done in Vata Pradhana & Kapha Ksheena conditions & if after attainment of Samyaka Lakshana still Marsha Nasya is continued it will lead to Atiyoga of Marsha Nasya & cause Kapha Prakopa. In similar way if Virechana Nasya is continued after Samyaka Lakshana is attained then it may lead to Vata Prakopa due to excessive Kapha Shodhana.

Table No. 25: Atiyoga Lakshana of Marsha (Sneha) Nasya according to different Acharya.

Sr. No.	Atiyoga Lakshana of Marsha (Sneha) Nasya	S.S.[112]	A.H.[113]
1.	Shirogaurava	+	-
2.	Guruta	-	+
3.	Kandu	-	+
4.	Praseka	-	+
5.	Peenasa	-	+
6.	Aruchi	-	+
7.	Indriyavibhrama	+	-

Table No. 26: Atiyoga Lakshana of Virechana Nasya according to different Acharya.

Sr. No.	Atiyoga Lakshana of Virechana Nasya	C.S.[114]	S.S.[115]	Sha.S.[116]
1.	Shira Aratitoda	+	-	-
2.	Akshi Aratitoda	+	-	-
3.	Shankha Aratitoda	+	-	-
4.	Shravana Aratitoda	+	-	-
5.	Indriyavibhrama	-	+	+
9.	Vata Vruddhi	-	+	+

Vyapata -

Vyapata[117,118] may be due to many reasons; the reasons for Vyapata are as follows:

Administration of Nasya in any contra- Indicated conditions. Due to technical failure during the procedure.

Due to peculiarity of drug Due to dose variation If patient breaches the protocol during Nasya. Many of the Vyapata symptoms are similar to that of Atiyoga & Heena Yoga symptoms, thus it should be confirmed that, the result of Asamyaka Lakshana is due to Vyapata or specifically due to Heena Yoga or Atiyoga of particular Nasya.

The complications occur by

1. Doshotklesha - This should be managed by Shodhana & Shamana Chikitsa.
2. Doshakshaya - This should be managed by Brumhana Chikitsa.

Vyapata due to technical failure in procedure

If the drug used for Nasya is very hot.

It may create complications like Daha, Paka, Jvara, Raktagama, Shiroruka, Moorchchha, Drushtidaurbalya.

Atyavanata Shira (if head is too lowered) Moorchchha, Jadya, Kandu, Daha, Jvara.

Atyunnata Shira (if head is not lowered properly) Desired effect can't be achieved Sakrudeva Pradanata (rapid instillation) Shiroroga, Pratishyaya, Ghranakleda, Shvasoparodha Vyapata due to improper dose –

Heena Matra (less dose)

It causes Utklesha of Dosha but will not be enough to expel out, it leads to Gaurava, Aruchi, Kasa, Praseka, Peenasa, Chchhardi, Kandu

Atimatra (large dose)

Atiyoga of Snehana or Virechana according to the medicine used

Vyapata due to patient -

Abhyavaharto (if the Nasya medicine is swallowed accidentally) May be causes indigestion.

Sankuchita Gatravayava (if patient is not relaxed)

Medicine will not reach up to proper sight of action & result in only Utlkesha of Dosha but will not be expel it out. Causes pain & stiffness.

During instillation if patient laughs, speaks, gets angry or try to sniff medicine during instillation itself.

Shiroruka, Pratishyaya, Kasa, Timira, Khalita, Palita, Vyanga etc.

Mode of Action of Nasya Karma -

In Ayurvedic classics, the mode of action of Nasya Karma is explained.

According to Charaka Samhita, the drug administered through the nose enters in the Uttamanga & eliminates the morbid Dosha residing there.

Flow Chart No. 2

According to Ashtangasamgraha[120]

Drug administered through nose - i.e. the doorway to Shira.

Reaches the Shrungataka Marma of Head (Shira), which is a Shira Marma & formed by the Shiras of Nasa, Chakshu, Kantha & Shrotra.

The drug spreads by the same route. Eliminates the morbid Doshas of Urdhvajatrugata & extracts them from the Uttamanga.

Indu, the commentator of Ashtangasamgraha, opined that Shringataka is the inner side of middle part of head i.e. “Shiraso Antar Madhyama”. In this context Sushruta has clarified that Shrungataka Marma is a Shiramarma formed by the union of Shiras supplying to nose, ear, eye & tongue. Thus it can be stated that[121] drug administered through Nasya may enter the above Shira & purifies them.

Under the complications of Nasya Karma, Sushruta has mentioned that excessive eliminative errhine may cause Mastulunga Srava[122] (flow of cerebrospinal fluid out to the nose) which suggest the direct relation of Nasal pathway to brain.

All ancient Acharyas have considered Nasa as the gate way of Shira. It does not mean that any channel directly connects brain & nose, but it may be suggestive of any connection through blood vessels, lymphatic & nerves.

DRUG REVIEW

1. APAMARGA

Family

Achyranthes aspera Latin Name - Achyranthes aspera linn Synonyms -

Shikhari, Adhah Shalya, Mayurka, Kharmanjiri, Pratyakpushpi, Markat Pippali, Kshavka.

Vernacular Name -

Hindi - Chirachinta/ Cingcingi, Telugu - Uttareni, English - Pirckly chaff flower, Tamila - Nayurvi, Kannada - Uttaren, Malayalam - Katalati, Bengali - Apanga, Punjaba - Puthakanda, Marathi – Aghada

Botanical Descripation -

It is small herb 0.5 to 1 meter high. The branches are thick at the end. The leaves are small, elliptic or ovate, 6 - 8 long, 5 - 8 broad, soft & hairy. The leaves are whitish on the dorsal side. The flowers are greenish white & appear in inflorescence. Fruit are thin, elliptic & greyish. The flowers blossom in winter & seeds disperse in summer.

Habitat -

It grows all over India. Part used -

Root, Leaf, Panchanga, Tandula (Seeds) Type - 2

1. Shveta
2. Rakta Properties –

Rasa - Katu, Tikta Veerya - Ushana Vipaka - Katu

Guna - Laghu, Ruksha, Teekshna, Sara

Karma & uses

It's mainly used in Vatakapha's diseases of its Katu, Tikta Rasa. It is Vataghna due to Ushana Veerya & Kaphahara due to Katu Vipaka & Laghu, Ruksha, Teekshana Guna. It is Shirovirechana, Shothahara, Vedanasthapana, Lekhana, Vishaghna.

Doshaghnata

Kaphavata Shamaka & Kaphapitta Sanshodhana

Dhatukarma - Medoghna, Raktagami Malakarma -

Purisha Virjaniya, useful for elimination exudates from nose by Nasya 2

Chemical constituents

Ecdysone, ecdysterone, inokosterone, olenolic acid & glycoside, from roots. Saponin A & B from seeds along with hentriacontane sapoins C & D & oleanolic acid based from fruit. Alchyronthine & betaine from the whole plant are repoted. 3

Pharmacological Activities

Diuretic, spasmolytic, hypoglycaemic, antimicrobial, antifungal, antiimplantation, abortifacient, hypotensive, pugative, vasodilator, cardic depressant (achyranthine), cardic stimulant (seed saponins).

2. TILA

Family - Pedaliaceae Latin name -

Sesamum indicum linn Synonyms -

Homadhanya, Pavitra, Papaghna, Pitrutarpan, Pootadhanya, Jartil, Vanodbhava.

Vernacular Name

Hindi - Tila, Bengali - Tila, Gujarati - Tala, Tamila - Ellu, Telagu - Nuvvulu, Arabi - Simasima, Samasama, Pharasi - Kunjada, English - Seasamum, Marathi - Tila. Botanical

Descrepation[4]

Annual herb of 1 mt height. Stalk bears soft, tebder hair. Leaves are 7 - 12 cm long. Flowers are tender, ciliated, blush, whitish, brown or yellowish. Seeds are small, white, brownish or black. Depending on colour of seeds yield more oil, whereas black variety is considered best for medical us

Habitat -

All over India. Part used - Beeja (Taila) Type - 3

1. Shveta
2. Rakta
3. Krushna Properties –

Rasa - Madhura Anurasa - Kashaya, Tikta,

Guna - Guru, Snigdha, Teekshna, Sukshma, Vyavayi, Vikasi, Sara, Vishada Veerya – Ushna

Vipaka - Madhura Karma & uses -

It is having Vatahara properties, Shoolaghna, Bruhanam, Balya, Vataghna, Shoola Prashamanam, Pathya, Deepanm, Vrishya, Agnivardhaka, Medhavardhaka, Vranhita, Twachya, Matiprada, Stanya.

Doshaghnata

Vata Shamaka, Kaphapiita Prakopaka, Tridoshaghna - after processing Rogaghnata - Sarvaroghara (Sanskarat)

Dhatukarma -

Mansa, Shukra, Meda, Majja, Asthi, Rakta, Rasayana. Malakarma -

Kesha, Puisha (incressing the bulk), Mutra (antidiureatic). Chemical composition –

It contains oil 50 to 60 % & protine 22%.

MATERIALS & METHODS

MATERIALS

Drug Source

Standard quality of raw material of Apamarga Siddha Tail is collected.

Equipment for Nasya

1. Gokarna
2. Droni
3. Chair
4. Dhooma Varti
5. Cotton
6. Measuring Jar
7. Luke warm water

Identification & Authentication

Identification & Authentication of raw material was done by Department of Dravyaguna of Ayurveda Mahavidyalaya.

Preparation of Apamarga Siddha Tail

Table No. 27: Contents of Apamarga Siddha Tail.

Sr. No.	Drug	Latin Name	Family	Rasa	Veerya	Vipaka	Guna	Part Used
1	Apamarga	Achyanthes Aspera	Amarathaceae	Katu Tikta	Ushna	Katu	Laghu Ruska Tiskna Sara Guru	Beeja
2	Tila	Sesamum Indicum	Peedaliaceae	Madhura Anurasa-Kashya	Ushna	Madhura	Snigdha	Beeja

Apamarga Siddha Tail was prepared as per Sharangdhara Samhita Snehakalpana mentioned in Madhyamkhanda.[1]

Nirmana Vidhi of Apamarga Siddha Tail -

Content required for the Apamarga Siddha Tail Nirmana are as follows -

1. Apamarga Beeja
2. Tila Tail
3. Drava- Dravya

According to Sharangdhar Samhita, wherever the exact quantity of Kvatha/ Kalka/ Svarasa etc. was not given for the preparation of Siddha Tail then general quantity should be taken i.e.[2]

Kalka: Tail: Kvatha 1 part: 4 parts: 16 parts

For dry drugs the quantity of water used was 16 parts of the Dravya.

Kvatha Nirmana

Kvatha prepared by taking 1 part of Dravya & 16 parts of water.

Heat till 8th part of the water remains behind.[3]

Kalka Nirmana

Kalka was preparation by mixing the Apamarga Beeja Bharada Choorna of the Dravya with small quantity of water.[4]

Quantity of Kalka

Quantity of Kalka used for Tail preparation was 1/4th of the Tail.[5]

Tail to be used as Base

Accorging to Sharangdhara Samhita if any specific Tail was to be used as base wasn't mentioned then Tila Tail was used.

Nirmana Vidhi

Step 1 - First of all, Kvatha was prepared by above mentioned method.

Step 2 - Then Kalka was prepared by above mentioned method

Step 3 - Prepared Kalka & Tail was added in the Kvatha.

Step 4 - Mixed this mixture propely & subjected to heat under Mandagni till Sneha Siddhi Lakshana & Samykaka Lakshana of Mrudupaka was obtained.

Sneha Saddhi Lakshana

There are 4 types of Pariksha to decide the Sneha Siddhi Lakshana[6]

1. Kalka Varti Pariksha
2. Agni Pariksha
3. Gandha- Vama Pariksha
4. Phena Pariksha

1. Kalka Varti Pariksha

Take a small amount of Kalka from the prepared Tail & rub between index finger & thumb when it turns into Varti it was considered as Tali Siddhi Lakshana.

2. Agni Pariksha

Some drop of prepared Tail are sprinkled on the fire & if it dosen't produce any sound it was Tail Siddhi Lakshana.

3. Gandha- Vama Pariksha

When Tail is Siddha it had the Varna, Gandha & Rasa of the medicine by which it was prepared.

4. Phena Pariksha

When the frothy bubbles start coming from the Tail, it is considered as Tail Siddhi sign.

Type of Snehapaka

1. Mrudu Paka
2. Madhyama Paka
3. Khara Paka

1. Mrudu Paka

When the remaning Kalka after the preparation of Tail was like liquid then it was said to be Mrudu Paka.

2 Madhyama Paka

When the remaning Kalka after the preparation of Tail gets solid but soft then, it was said to be Madhyama Paka.

3 Khara Paka -

When the remaning Kalka after the preparation of Tail was solid, it said to be Khara Paka.

Mrudu Paka was used for Nasya[7]

I had taken Mrudu Paka for Apamarga Siddha Tail for Nasya Karma in my study.

Standardization

Standardization & Analysis of Apamarga Siddha Tail was done for photochemical analysis in authentic drug testing laboratory.

Apamarga Siddha Tail

METHODODLOGY

This study is single open clinical trial of Apamarga Siddha Tail Nasya in the management of Manyastambha w.s.r. to Cervical Spondylosis.

Sample Source

The patients with diagnostic criteria of Manyastambha were selected for study from the OPD of Panchakarma department.

Method of Collection of Data

Total 60 patients who fulfilled the inclusion criteria of Manyastambha Vyadhi were being selected irrespective of sex, relagion economic & marital status.

Study type

Single open clinical trial was conducted in 60 well diagnosed patient of Manyastambha.

Phases of Trial

1. Diagnostic Phase
2. Interventional Phase
3. Assessment Phase

1. Diagnostic Phase

The diagnosed patients have signs & symptoms of Manyastambha as per text.

Criteria was as follows - Subjective criteria

Manyashoola (Pain in neck), Manyastambha (Stiffness in neck), Gaurava (Heaviness) & Chimchimayana (Numbness).

Objective criteria

Flexion, Extension, Lateral Flexion & Rotation of Neck.

2. Interventional Phase

After diagnosis of patients, the study was intervened by the Apamarga Siddha Tail Nasya for 7 days & assement was taken on 0^{th} (Baseline), 5^{th}, 7^{th} day & follow up on 15^{th} days (after treatment) on regression in signs & symptoms.

3. Assessment Phase

Subjective parameter & objective parameter were used to assess the clinical response. The patient were assssed on 0^{th} day (before starting the treatment), 7^{th} day (after completion of treatment) & finally on 15^{th} day (after treatment).

Flow chart No. 3 Study Design

Study was conduct on 60 well diagnosed patient of Manyastambha Initial

↓

Assessment

↓

Written informed consent Single

↓

Open Clinical Trial

↓

Apamarga Siddha Tail Nasya for 7 days & Pathya-Apathy as per Manyastambha Vyadhi

↓

Follow up after 0 (Base-line), 5^{th}, 7^{th}, 15^{th} days

↓

Final Assessment at 15^{th} day

↓

Discussion

↓

Statistical Analysis

↓

Conclusion

Selection Criteria

Inclusion Criteria

Diagnosed patients of Manyastambha. Patients having age between 20 to 60 years.

Patients selected will be irrespective of sex, religion etc.

Nasya Yogya.

Exclusion Criteria

Nasya Anarha

Cervical vertebra fracture

Meningitis

Malignancy of vertebral column

Patient having chronic disease, major cardiac disorders, renal disorders etc.

Withdrawal of Subject

Patient willing to discontinue during trial treatment. Patient not giving written consent.

Patient left against medical advice.

Plan of work

Table No. 28: Showing plan of work Therapy Marsha Nasya.

Drug	Apamarga Siddha Tail
Dose	6 Bindu in each nostril
Duration	7 days
Assessment	0^{th} (Base- line), 7^{th} day & on 15^{th} day (after treatment)
No. of patients	60

Treatment Details

Procedure of Nasya Karma Poorvakarma

1. The patient was educated with the procedure & regimen to follow during the 7 days of Nasya. Before the procedure it was confirmed that patient is relaxed & free from his natural urges.
2. Patient's vital parameter like B.P & Pulse rate was noted before the procedure & asked to sit in an armed chair.
3. Here, Snehana means Mrudu Abhyanga. It was done with Tila Tail for 5 to 10 minutes on scalp, forehead & neck.
4. After Abhyanga, Nadi Sweda with water was done for 5 to 10 minutes, on Shira,

Mukha, Nasa, Manya & Kantha. While doing Swedana, eyes had been covered with cotton or cloth for protecting it from the steam. Then patient was asked to lie down over Droni in supine position with head low & tip of nose facing towards the roof of room, patient's legs were kept slightly raised with an angle of approx 30 degree.

5. Patient's eyes were covered with cotton to prevent the spilling of oil inside the eyes during instillation.

Pradhanakarma

1. First, medicine was taken in Gokarna & made lukewarm by keeping it over the warm water.
2. While instilling the medicine in one nostril, other nostril was kept closed with the help of index finger of left hand & with the help of left thumb, nasal tip was raised little upside so that instillation of medicine in nasal cavity will be easier.
3. 6 Bindu of Apamarga Siddha Tail was instilled in each nostril alternatively & then patient was asked to sniff the medicine inside & to remain in the same position for around 5 to 10 seconds.
4. Massage was done over soles & palms, neck, ears, forehead by the attendant.
5. After that patient was advised to spit the Kapha & medicine on the either side.

Pashchatakarma

1. Patient was asked to sit in an armed chair & Nadi Swedana was done repeatedly till the spitting of Kapha subsides completely.
2. Dhoomapana was done 3 puffs each time repeated the same for three times.

Dhoomavarti prepared with turmeric & soaked in cow's ghee was used for Dhoomapana.

3. After Dhoomapana, Kavala was done with lukewarm water.

CRITERIA FOR ASSESSMENT OF PATIENT

Subjective Criteria

Manyashoola (Pain in neck) Manyastambha (Stiffness in neck) Gaurava (Heaviness) Chimchimayana (Numbness)

Objective Criteria

Flexion Extension Lateral Flexion Rotation of Neck

Subjective Criteria

Table No. 29: Showing gradation of Manyashoola (Pain in neck).

by VSA Grade 0	**No pain**
Grade 1	Mild pain occasionally (1-3 score)
Grade 2	Moderate pain more than mild but tolerable pain (4- 6 score) Grade 3 Severe pain continuous (7-10 score)

Table No. 30: Showing gradation of Manyastambha (Stiffness in neck).

Grade 0	**Absent**
Grade 1	Mild, occasionally for 10-30 min
Grade 2	Moderate, for 30-1 hr

Table No. 31: Showing gradation of Gaurava (Heaviness).

Grade 0	**Absent**
Grade 1	Mild, occasionally for 10-30 min Grade 2 Moderate, for 30-1 hr
Grade 3	Severe Persistence >1 hr

Table No. 32: Showing gradation of Chimchimayana (Numbness)

Grade 0	No Chimchimayana
Grade 1	Mild, occasionally
Grade 2	Moderate, during work
Grade 3	Severe, continuous

Objective Criteria

Cervical movements

Flexion

Extension

Lateral Flexion

Rotation of Neck

Table No. 33: Showing Normal Range of cervical movements.[8]

Cervical movement	**Normal movement in degree**
Flexion	50
Extension	60
Lateral Flexion	45
Rotation of Neck	80

Table No. 34: Showing angles of Flexion.

Grade 0	Normal i.e. 50 degree able to touch chin up to chest
Grade 1	38 to 49 degree of total neck movement
Grade 2	25 to 37 degree of total neck movement
Grade 3	13 to 24 degree of total neck movement
Grade 4	No flexion of neck

Table No. 35: Showing angles of Extension.

Grade 0	Normal i.e. 60 degree extension of head up to back
Grade 1	45 to 59 degree of total neck movement
Grade 2	30 to 44 degree of total neck movement
Grade 3	15 to 29 degree of total neck movement
Grade 4	No extension of neck

Table No. 36: Showing angles of Lateral Flexion.

Grade 0	Normal i.e. 45 degree ear touch to shoulder tip
Grade 1	34 to 44 degree of total neck movement
Grade 2	23 to 33 degree of total neck movement
Grade 3	12 to 22 degree of total neck movement
Grade 4	No flexion of neck

Table No. 37: Showing angles of Rotation of Neck.

Grade 0	Normal i.e. 80 degree, able to make complete rotation
Grade 1	60 to 79 degree of total neck movement
Grade 2	40 to 59 degree of total neck movement
Grade 3	20 to 39 degree of total neck movement
Grade 4	No rotation of neck

The range of cervical movement measures with the help of Goniometry as before treatment, at follow up & after treatment.

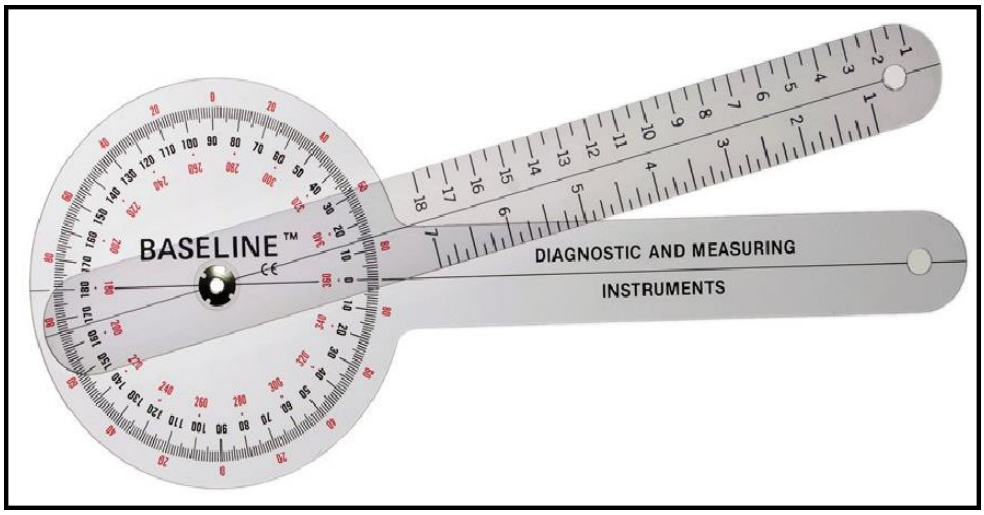

Fig. No. 6: Goniometry.

OVERALL ASSESSMENT IN GREAD

Table No. 38

Sr. No.	Gradation of the effect	Percentage of relief
1.	Grade 1 (Excellent)	75 - 100% relief in signs & symptoms
2.	Grade 2 (Moderate)	50 - 75% relief in signs & symptoms
3.	Grade 3 (Mild)	50 - 25% relief in signs & symptoms
4.	Grade 4 (Poor)	Below 25%

OBSERVATION

All observation was on 60 diagnosed patients of Manyastambha who are fulfiling the all criteria of study.

Table No. 39: Age wise distribution.

Age Group (years)	No. of patients
20 - 30	4
30 - 40	9
40 - 50	21
50 - 60	26
Total	60

Graph No. 1

The above table reveals that majority of the patients i.e. 26 were reported in age group of 50 - 60 years, followed by 21 patients observed in the age group of 40 - 50 years, 9 patients observed in the age group of 30 - 40 years & 4 patients were observed in age group of 20 - 30 years.

Table No. 40: Gender wise distribution.

Gender	No. of patients
Female	24
Male	36
Total	60

Graph No. 2

The above table reveals that majority of the patients i.e. 36 were Males & 24 patients were Females.

Table No. 41: Habitat wise distribution.

Habitat	No. of patients
Rural	10
Urban	50
Total	60

Graph No. 3

The above table reveals that majority of the patients i.e. 50 were living in Urban area while 10 patients were living in Rural area.

Table No. 42: Occupation wise distribution.

Occupation	No. of patients
Student	3
Service	21
Business	19
Total	60

Graph No. 4

Maximum i.e. 21 patients were doing Service, 19 patients were Businessman, 8 patients were House wife, 5 patients were Farmer, 4 patients were Labor & 3 patients were Student.

Table No. 43: Nature of Occupation wise distribution.

Nature of Occupation	No. of patients
Physical Exertion	23
Sedentary	37
Total	60

Graph No. 5.

The above table shows that maximum 37 patients were having Sedentary type of Nature of Occupation, while 23 patients were having Physical Exertion type of Nature of Occupation.

Table No. 44: Economical Status distribution.

Economical Status	No. of patients
Poor class	9
Middle class	46
Rich class	5
Total	60

Graph No. 6.

The above table shows that maximum 46 patients were belongs to Middle class, followed by 9 patients were belongs to Poor class & 5 patients were belongs to Rich class.

Table No. 45: Marital Status wise distribution.

Marital Status	No. of patients
Unmarried	8
Married	51
Widow	1
Total	60

Graph no. 7

The above table reveals that majority of the patients i.e. 51 were Married, 8 patients were Unmarried & 1 patient was Widow.

Table No. 46: Agni wise distribution.

Agni	No. of patients
Visham	27
Tikshna	9
Manda	16
Sama	8
Total	60

Graph No. 8

The above table shows that maximum 27 patients were having Visham Agni, followed by 16 patients were having Manda Agni, 9 patients were having Tikshna Agni & 8 patients were having Samagni.

Table No. 47: Koshtha wise distribution.

Koshtha	No. of patients
Krura	15
Madhyama	34
Total	60

Graph No. 9

The above table shows that maximum 34 patients were having Madhyam Koshtha, followed by 15 patients were having Krura Koshtha & 11 patients were having Mrudu Koshtha.

Table No. 48: Prakruti wise distribution.

Prakruti	No. of patients
VP	9
VK	24
PV	3
PK	2
KV	19
KP	3
Total	60

Graph No. 10

The above table shows that maximum 24 patients were having Vata- Kapha Prakruti, 19 patients were having Kapha- Vata Prakruti, 9 patients were having Vata- Pitta Prakruti, 3 patients were having Pitta- Vata Prakruti, an other 3 pa tients were having Kapha- Pitta Prakruti & 2 patients were having Pitta- Kapha Prakruti.

Table No. 49: Bala wise distribution.

Bala	No. of patients
Pravara	11
Madhyama	45
Avara	4
Total	60

Graph No. 11

The above table reveals that majority of the patients i.e. 45 were having Madhyama Bala, 11 were having Pravara Bala & 4 were having Avara Bala.

EFFECT OF THERAPY

Effect of Apamarga Siddha Tail Nasya in Manyastambha w.s.r. to Cervical Spondylosis.

60 patients who completed the full course of treatment & so the effect of Apamarga Siddha Tail Nasya in Manyastambha w.s.r. to Cervical Spondylosis was quoted from here onwards.

Statistical Analysis

The null hypothesis (H0)

The effect of treatment on all symptoms in Apamarga Siddha Tail Nasya in Manyastambha w.s.r. to Cervical Spondylosis is statistically not significant.

The alternative hypothesis (Ha)

The effect of treatment on all symptoms in Apamarga Siddha Tail Nasya in Manyastambha w.s.r. to Cervical Spondylosis is statistically significant.

All the values in following tables are calculated by using Wilcoxon Sign Rank Test for subjective criteria & Paired t test for Objective criteria. Statistical analysis of every symptom is described separately in the following tables.

Table No. 50

Symptom	Manyashoola (Pain in neck)
Mean Score, B.T.	2.8
Mean Score, A.T.	0.533
S.D (±), B.T.	0.40 3
S.D (±), A.T.	0.535
S.E. (±), B.T.	0.0 52
S.E. (±), A.T.	0.0 69

W	1830
Z	-6.73
P	P<0.05
Result	Significant

Graph No. 12

As the p value is lower than the significance level alpha = 0.05, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Manyashoola (Pain in neck).

Table No. 51.

Symptom	Manyastambha (Stiffness in neck)
Mean Score, B.T.	2.717
Mean Score, A.T.	0.467
S.D (±), B.T.	0.555
S.D (±), A.T.	0.535
S.E. (±), B.T.	0.071
S.E. (±), A.T.	0.069
W	1830
Z	-6.735
P	P<0.05
Result	Significant

Graph No. 13

As the p value is lower than the significance level alpha = 0.05, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Manyastambha (Stiffness in neck).

Table No. 52.

Symptom	Gaurava (Heaviness)
Mean Score, B.T.	2.45
Mean Score, A.T.	0.567
S.D (±), B.T.	0.768
S.D (±), A.T.	0.592
S.E. (±), B.T.	0.099
S.E. (±), A.T.	0.076
W	1770
Z	-6.68
P	P<0.05
Result	Significant

Graph No. 14

As the p value is lower than the significance level alpha = 0.05, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Gaurava (Heaviness).

Table No. 53.

Symptom	Chimchimayana (Numbness)
Mean Score, B.T.	2.283
Mean Score, A.T.	0.667
S.D (±), B.T.	0.884
S.D (±), A.T.	0.628
S.E. (±), B.T.	0.114
S.E. (±), A.T.	0.0811
W	1540
Z	-6.45
P	P<0.05
Result	Significant

Graph No. 15

As the p value is lower than the significance level alpha = 0.05, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Chimchimayana (Numbness).

Table No. 54

Symptom	Flexion
Mean Score, B.T.	21.87
Mean Score, A.T.	39.45
S.D. (±)	5.65
S.E. (±)	0.72
T	24.1
P	<0.05
Result	Significant

Graph No. 16

As the t value calculated is greater than the t tabulated value at p = 0.05, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Flexion.

Table no. 55

Symptom	Extension
Mean Score, B.T.	25.88
Mean Score, A.T.	48.45
S.D. (±)	6
S.E. (±)	0.77
T	29.12
P	<0.05
Result	Significant

Graph no. 17

As the t value calculated is greater than the t tabulated value at p = 0.0 5, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Extension.

Table No. 56

Symptom	Lateral Flexion
Mean Score, B.T.	20.55
Mean Score, A.T.	35.2
S.D. (+)	4.32
S.E. (+)	0.55
T	26.26
P	< 0.0 5
Result	Significant

Graph No. 18

As the t value calculated is greater than the t tabulated value at p = 0 .0 5, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Lateral Flexion.

Table No. 57

Symptom	Rotation of Neck
Mean Score, B.T.	35.38
Mean Score, A.T.	63.73
S.D. (±)	10.0 4
S.E. (±)	1.29
T	21.86
P	< 0.0 5
Result	Significant

Graph No. 19

As the t value calculated is greater than the t tabulated value at p = 0.0 5, we should reject the null hypothesis H0 & accept the alternative hypothesis Ha for Rotation of Neck.

CONCLUSION

The effect of Apamarga Siddha Tail Nasya is significant at p< 0.0 5 for subjective criteria such as Manyashoola (Pain in neck), Manyastambha (Stiffness in neck), Gaurava (Heaviness) & Chimchimayana (Numbness) of Manyastambha w.s.r. to Cervical Spondylosis.

Apamarga Siddha Tail Nasya is found to be statistically significant for objective criteria such as Flexion, Extension, Lateral Flexion & Rotation of Neck.

Table no. 58: overall effect of therapy.

Overall effect of therapy is drawn on 60 patients of Manyastambha w.s.r. to Cervical Spondylosis.

Result	Apamarga Siddha Tail Nasya	
	Number of patients	%
Excellent improvement (75 to 100 %)	47	78.33 %
Good improvement (50 to 75 %)	12	20.00 %
Average improvement (25 to 50 %)	1	1.67 %
Poor improvement (0 to 25 %)	0	0 %

Graph No. 20

In Group of Apamarga Siddha Tail Nasya out of 60 patients, Excellent improvement (75 to 100 % relief) was noted in 47 patients i.e. 78.33 %, Good improvement (50 to 75 % relief) was noted in 12 patients i.e. 20 %, Average improvement (25 to 50 % relief) was noted in 1 patient i.e. 1.67 % & no one was noted in Poor improvement (0 to 25 % relief).

RESULT

Effect of the Apamarga Siddha Tail Nasya on symptoms observed in Manyastambha w.s.r. to Cervical Spondylosis was statistically proves to be significant.

The effect of Apamarga Siddha Tail Nasya is significant at $p< 0.0\ 5$ for subjective criteria such as Manyashoola (Pain in neck), Manyastambha (Stiffness in neck) Gaurava (Heaviness) & Chimachimayana (Numbness) of Manyastambha w.s.r. to Cervical Spondylosis.

Apamarga Siddha Tail Nasya is found to be statistically significant for objective criteria such as Flexion, Extension, Lateral Flexion & Rotation of Neck.

DISCUSSION

Any hypothesis or principle, if to be proved must be discussed thoroughtly from all angles which had been clearly stated by Charakacharaya. After the formation of hypothesis, it has to be tested & observed by various method, parameter & eventually the results are obtained. All this is supported by proper reasoning or logical & is finally concluded. A hypothesis gets established as a principle if the reasoning given is satisfactory, otherwise it remains as it is Charaka has very precisely said that, discussion improve the knowledge & discussion with science becomes base for establishment of the concept. Thus discussion is the most essential part of any research work.

Discussion of this study is divided into following points Discussion on
Intoduction
Discussion on Disease Discussion
on Nasya Krama Discussion on
Drug
Discussion on the clinical study Discussion on
Overall effect of therapy

Discussion on Intoduction

In today's modern era life style, working orders, dietary & behavioural pattern is change & it is not suitable for our normal physiology. Because of this we developed many cervical spine related problems.

Discussion on Disease

Manyastambha was explained as Urdhvajatrugata Vyadhi & one among eighty type of Vata Nanatmaja Vikara. The disease shows signs & symptoms as Manyashoola, Manyastambha, Gaurava, Chimchimayana at the Manya Pradesha. According to Ayurvedic classical texts; Diwaswapa (day sleeping), wrong positions of siting & sleeping, improper position of working, watching upward for long time are specific causes of Manyastambha. Due to above mentioned lifestyle & working habits (Hetu Sevana) Vata & Kapha entirely get perverted. The perverted Kapha obstruct the channel of Vata leading to restricted & painful neck movement resulting in Manyastambha Vyadhi. In Manyastambha at initial stage, Vata & Kapha Dosha

involved where see but how ever the chronicity increases only when Vata Dosha involvement was observed.

Manyastambha can be co- related with cervical spondylosis in modern science. Cervical spondylosis is a nonspecific term describing the morphological manifestations of progressive degeneration of cervical spine. The Nidana Sevana causes the perversion of Vata & Kapha Dosha which loaded into the Asthni, Majja Dhatu. The movement of the joints were performed by Sheshmaka Kapha situated in the joints, in chronic stage the perverted Vata which further facilitated the Ashtiskaya degeneration in cervical spine was found in the pathogesis of cervical spondylosis. Due to the degeneration of intervertebral discs, the space between two adjacent vertebrae was reduced ultimately which caused the shortening of the cervical spine. This pathogenesis leads to the restricition of the movement of neck.

In the classical text, the treatment was explained as Sweda & Nasya. As far as the etiopathology of Manyastambha is concerned Vata Dosha & Kapha Dosha are important Snehana, Swedana, Nasya are the line of treatment for that.

Discussion on Nasya Karma

As Nasa is mentioned as a gateway to Shiras & diseases which affect the Shira & Urdhvajatrugata Vyadhi (supraclavicular region) ware cured by Nasya, it is said to be strengthening to neck & shoulder also. Thus the importance of Nasya is inevitable. Even in modern medicine also, nasal root of administration is taking new dimensions. Nasal root of administration is supposed to be the most potent drug delivery system as bioavailability of medicine will be more compared to other roots of administration.

Marsha is type of Nasya. According to Sneha Matra, dose of Marsha is 10, 8 & 6 Bindu in each nostril U ttama, Madhyama, Heena Matra respectively. In Kaphaja Vikara Nasya is given at morning, in Pittaja Vikara Nasya is given at noon & in Vataja Vikara Nasya is given at evening time. In Manyastambha Vyadhi Nasya must be given for 7 days continuously.

Probable Action of Nasya Karma

Nasya is beneficial in Urdhvajatrugata Vikara & it is supposed to be strengthening to neck & shoulder also. Its sight of action is Shrungataka Marma, which is the union of

Shiras of Nasa, Kantha, Chakshu. The drug spreads by same route & eliminates the morbid Dosha from Urdhvajatru. As Avalambaka Kapha is having major role in giving strength to Urdhvatrik i.e. is union of neck & shoulder. The major pathological factors in Manyastambha are Sleshaka Kapha in Manyasandhi & Avalambaka Kapha in Urdhvatrik. As Nasya is basically Kapha Shodhana procedure by nasal root it can reach the perverted Kapha Dosha & expel it out by doing proper Utklesha. Thus to get the maximum effect of procedure dose should be apt. Functions of Prana, Udana & Vyana were improved because of Nasya. Thus it resulted in Samyak yoga symptoms like Sukhavshvasana, Sukha Swapna, Sukha Bodha, Akshipadam etc.

For the procedure of Nasya, Poorvakarma like Abhyanga & Swedana were done. These factors also would have contributed in efficiency of therapy. Also Abhyanga & Swedana is indicated in Vatavyaadhi. Abhyanga & Swedana is the part of Nasya procedure & their effect finally can be attributed to Nasya itself. The purpose of Abhyanga & Swedana in Nasya procedure was to get the maximum efficiency of Nasya by achieving proper Shodhana. In the present study Abhyanga & Swedana did the dual action by directly producing local effect over neck & indirectly in augmenting the Shodhana procedure by Nasya.

In Pashchatakarma of Nasya Swedana is mandatory beacause Kapha get mixed with Sneha, by means of Swedana it get liquefied & expel out easily. All Nasya are Vairechanika in nature due to common property of Shleshmavirechana in more or less amount. Thus Swedana after Nasya is mandatory irrespective of the Brumhana, Virechana or Shamana action. In Pashchatakarma of Nasya medicated Dhoomapana & Kavala are advocated to expel out the residue mucous lodged in Kantha.

Discussion on Drug

Table No. 59: Showing Doshaghnata & Karmaghnata.

Sr. No.	Drug	Doshaghnata	Karmaghnata
1	Apamarga	Kaphavata Shamaka & Kaphapitta Sanshodhana	Shirovirechana, Vatakaphahara, Shothahara, Vedanasthapana, Lekhana, Vishaghna
2	Tila Tail	Vata Shamaka, Kaphapiita Prakopaka & Tridoshaghna – Sanskarat	Shoolaghna, Bruhanam, Balya, Shoola Prashamanam, Vatahara, Pathya, Deepana, Vrishya, Agnivardhaka, Medhavardhaka, Vranhita, Twachya, Matiprada, Stanya.

Probable of Action of Apamarga Siddha Tail

In Apamarga Siddha Tail, Apamarga is a classical drug in Shirovirechana Gana & Mahakashaya by its properties. It is mainly Vatakaphahara, Kaphapitta Sanshodhana & Medoghna. In Manyastambha, mainly perversion of Vata & Shleshmanavrutta Vata is seen so Apamarga acts on both condition of Manyastambha. It is Vedanasthapana that's why it reduces Shoola & Lekhana so it expel out perverted Sleshmaka Kapha from Manyasanthi. By its Shothahara property it reduces inflammation. Manyastambha is also caused by Margavarodha because of Amakara Nidana Sevana; Apamaraga eliminates Prakupita Pitta causing Margavarodha by its Kaphapitta Sanshodhana Doshaghnata.

Apamarga is Vataghna due to Ushana Veerya so it has potency to mitigate Shoola & Chimchimayana. Kaphahara due to Katu Vipaka & due to Laghu, Ruksha, Teekshana Guna it mitigate lakshana like Stambha & Gaurava. Apamarga is property wise Vatakaphahara so typically use in Vatakaphaja Vyadhi.

Tila Tail is Vata Shamaka because of Madhura Rasa & Guru, Snigdha Guna so it is Bruhanam, Balya. It is Pitta Prakopaka due to Teekshna, Vyavayi, Vikasi Guna & Kapha Prakopaka due to Madhura Rasa & Vipaka.

Tila has Shoola Prashamanam effect on Sthanika & Sarvadehika Shoola. It is Pathya, Deepana & Agnivardhaka so it increases the efficiency of Jatharagni & Asthi & Majja Dhatvagni involve in Manyastambha. Tila Tail is Twachya. That's why it is used for Snehana & Asthi & Majja Dhatughnata give strength to Asthi & Majja Dhatu.

Tila is Tridoshaghna & Sarvaroghara after processing (Sanskarat).

Properties like Vatahara mitigate symptoms like Shoola & Chimchimayan. There is Teja, Vayu & Nabha Mahabhuta Sanghathana in Sukshma, Sara, Vishada Guna hencefore perverted Kapha is expelled out from Asthi & Majjavaha Strotusa & it reduces the symptoms like Stambha & Gaurava. Local application of Apamarga Siddha Tail is effective in Sthanika Shoola & it shows Shothahara also. Apamarga Siddha Tail Nasya is effective in Kaphaja Pratishaya.

Discussion on the clinical study

It was a single open clinical trial on 60 patients of Manyastambha with Apamarga Siddha Tail Nasya. Total duration of study was 15 days.

Discussion on Demographic Data - Age wise discussion

In this study majority of the patients i.e. 43 % were reported in age group of 50 - 60 years, followed by 35 % patients observed in the age group of 40 - 50 years, 15 % patients observed in the age group of 30 - 40 years & 7 % patients were observed in age group of 20 - 30 years.

Study show that age increases risk, with most cases occurring during the fourth & fifth decades of life; Finding from the present study supports the available data.

Gender wise discussion

In this study majority of the patients i.e. 60 % were Males & 40 % patients were Females. Study shows that males are more prone to cervical disorder than female. Finding from this study further supports the available data. In male participants specific causative factor is not been mentioned in science.

Habitat wise discussion

In this study majority of the patients i.e. 83 % were living in urban area while 17 % patients were living in rural area. Study show that in urban area people are suffer more to Manyastambha becasuse of their life style, working & dietary habits.

Occupation wise discussion

In this study maximum i.e. 35 % patients were doing Service, 32 % patients were Businessman, 13 % patients were House wife, 8 % patients were Farmer, 7 % patients were Labor & 5 % patients were Student. Work related factors are assumed to play an important part in the development of cervical pain & stiffness.

Nature of occupation wise discussion

In this study maximum 62 % patients were having sedentary type of Occupational Nature, while 38 % patients were having physical exertion type of Occupational Nature. Sings & symptoms like pain, Numbness were cause by physical exertion. Typically, Stiffness or rigidity as well as heaviness occurs due to sedentary type of Occupation.

Economical Status wise discussion

In this study maximum 77 % participants belonged to Middle class, followed by 15 % patients were belongs to Poor class & 8 % patients were belonged to Rich class. It is very difficult to generalize & comment on the probable economic status of participants because of small sample size. Manyastambha was effect all the economic peoples equally.

Marital Status wise discussion

In this study majority of the patients i.e. 85 % were married, 13 % patients were Unmarried & 2 % patient were Widow. As the average age was around 50 years in the study its natural that almost participants were married. There was no data observed regarding marital status & occurrence of Manyastambha.

Agni wise discussion

In this study maximum 45 % patients were having Visham Agni, followed by 27 % patients were having Manda Agni, 15 % patients were having Tikshna Agni & 13 % patients having Samagni. This study indicates that Visham Agni may be the cause behind the pathology of Manyastambha. As mentioned in Aayurveda Manda Agni is cause of Sarvaroga. Jatharagni Mandy leads to Dhatvagni Mandya in Asthi & Majja Dhatu. This may result in improper formation & maintenance of the Dhatu. Because of 'Kha' Vaigunya in respective Dhatu, Manyastambha have manifested.

Koshtha wise discussion

In this study maximum 57 % patients were having Madhyama Koshtha, followed by 25 % patients were having Krura Koshtha & 18 % having Mrudu Koshtha. In Madhyama Koshtha, many times quality is hampered, beacause of dietary habits of patients. In patients of Krura Koshtha, proper Vatanulomana was absent & it may have further contributed to the increase pain in neck. As 'Apana Vayu' has been mentioned as 'Adhara' of all the Vata, thus pathology in it may be disturbing the equilibrium of all the other Vata.

Prakruti wise discussion

In this study maximum 40 % patients were having Vata- Kapha Prakruti, 32 % patients were having Kapha- Vata Prakruti, 15 % patients were having Vata- Pitta Prakruti, 5 % patients were having Pitta- Vata Prakruti, other 5 % patients were having Kapha-

Pitta Prakruti & 3 % patients were having Pitta- Kapha Prakruti. In this study majority of patients were having Vata- Kapha & Kapha- Vata Prakruti. As per pathogenesis of Manyastambha, there was perversion of Vata & Kapha Dosha.

Bala wise discussion

In this study majority of the patients i.e. 75 % were having Madhyama Bala, 18 % were having Pravara Bala & 7 % were having Avara Bala. In Madhyama & Avara bala some time their quality was hampered because of life style, nature of work, diet, stress etc. and thus will be resulting in manifestation of Manyastambha.

Discussion on Subjective Criteria

Discussion on Manyashoola (Pain in neck)

Shoola is symptom due to dominant Vata Dosha in Apamarga Siddha Tail both drugs having Vatahara properties by their Ushana Veerya.

Tila tail has Shoola Prashamanam Karmaghnata & Apamarga has Vedanasthapana Karmaghnata Vedana occurs beasause of Shoola so its indirect action of Shoolahara.

It has properties like Balya & Bruhana that why it gives strength to Manyapradesha.

The mean score of Manyashoola (Pain in neck) was 2.8 before treatment, which reduced to 0.533 after treatment with 89.95 % relief which was statistically significant.

Discussion on Manyastambha (Stiffness in neck) -

Stambha is symptom due to dominant Kapha Dosha Apamarga Siddha Tail.

Apamarga is Lekhana so it expels out perverted Sleshmaka Kapha from Manyasanthi.

It is also Kaphavata Shamaka so Kapha Prakopa does not happen.

Tila Tail also has Vata Shamaka Guna; that’s why it balances the Lekhana Karmaghnata of Apamarga.

The mean score of Manyastambha (Stiffness in neck) was 2.717 before treatment, which reduced to 0 .467 after treatment with 82.82 % relief which was statistically significant.

Discussion on Gaurava (Heaviness)

Gaurava (Heaviness) is symptom, due to perverted Kapha Dosha it is seen; Apamarga is Laghu, Ruksha, Teekshana Gunatmaka hencefore it reduces Gaurava (Heaviness) in neck region.

Tila Tail is Sukshma, Sara, Vishada Guna there is Teja, Vayu & Nabha Mahabhuta Sanghathana in Tila hencefore perverted Kapha is expel out from Asthi & Majjavaha Strotusa & it reduct the symptoms like Gaurava.

The mean score of Gaurava (Heaviness) was 2.45 before treatment, which reduced to 0.567 after treatment with 76.87 % relief which was statistically significant.

Discussion on Chimchimayana (Numbness)

Apamarga is Vataghna due to Ushana Veerya so it has potency to mitigate Chimchimayana.

Tila is Tridoshaghna & Sarvaroghara after processing (Sanskarat). Properties like Vatahara mitigate symptom Chimchimayan in neck area. It gives strength to Asthi & Majja Dhatu.

The mean score of Chimchimayana (Numbness) was 2.283 before treatment, which reduced to 0.667 after treatment with 70.80 % relief which was statistically significant.

Symptoms wise result

Table No. 60

Symptoms	Percentage Relief
	Apamarga Siddha Tail Nasya
Manyashoola (Pain in neck)	89.95 %
Manyastambha (Stiffness in neck)	82.82 %
Gaurava (Heaviness)	76.87 %
Chimchimayana (Numbness)	70.80 %

Graph No. 21

Discussion on Objective Criteria

Pain, stiffness or rigidity, heaviness & numbness are the symptoms of Manyastambha Vyadhi. Due to all this symptoms, the cervical movements are restricted & especially

due to pain, stiffness, heaviness & numbness. Some times due to pain, the patients themselves immobile their cervical movements. Due to stiffness, heaviness & numbness cervical movements do not occur. When all the above symptoms are minimized, the movements of neck gets free & therefore the patients can increase their cervical movements.

Discussion on Flexion

The mean score of Flexion movement was 21.87 before treatment, which increased 39.45 after treatment which was statistically significant.

Discussion on Extension

The mean score of Extension movement was 25.88 before treatment, which increased 48.45 after treatment which was statistically significant.

Discussion on Lateral Flexion

The mean score of Lateral Flexion movement was 20 .55 before treatment, which increased 35.2 after treatment which was statistically significant.

Discussion on Rotation of Neck

The mean score of Rotation of Neck n movement was 35.38 before treatment, which increased 63.73 after treatment which was statistically significant.

Discussion on Overall effect of therapy

In this research work, total 60 patients of Manyastambha with Apamarga Siddha Tail Nasya where studied. Excellent improvement was noted in 47 patients i.e. 78.33 % , Good improvement was noted in 12 patients i.e. 20 % , Average improvement was noted in 1 patient i.e. 1.67 % & no one was noted in Poor improvement in all signs & symptoms.

CONCLUSION

The Conclusion drawn on the basis of the clinical study conducted in 60 participants of Manyastambha is as follows.

Manyastambha is mainly caused due to perverted Vata & Vatakapha. Aharaja, Viharaja, Manasa, Vayaj & Kalaja hetuj are responsible for this disease.

Life style changes are basic factors in Manyastambha. Male are more prone to Manyastambha.

The patient having age above 50 are more prone to disease. Manyastambha can be co-related with Cervical Spondylosis by their signs & symptoms.

Apamarga Siddha Tail Nasya acts on subjective criteria of Manyastambha Vyadhi i.e. Manyashoola (Pain in neck), Manyastambha (Stiffness in neck), Gaurava (Heaviness) & Chimchimayana (Numbness).

Apamarga Siddha Tail Nasya also acts on objective criteria of Manyastambha Vyadhi i.e. flexion, extension, lateral flexion & rotation of neck.

Further scope of study

In this study Apamarga Siddha Tail is used for Marsha Nasya but due to properties of Apamarga Siddha Tail it can also be used for Virechana Nasya for further clinical research work.

In further research work Apamarga Siddha Tail can be used for Nasyakarma in Urdhvajatrugata Vyadhi like Avabahuka, Vishvachi, Hanustambha etc.

SUMMARY

Summary was nothing but reflexation of work. The subject which was described & discussed in the work was summarized at the end. This study topic was "A clinical study of Apamarga Siddha Tail Nasya in the management of Manyastambha w.s.r. to Cervical Spondylosis" was designed as followed.

1. Introduction
2. Aim & Objectives
3. Review of literature
4. Materials & Methods
5. Observations & Results
6. Discussion
7. Conclusion
8. References
9. Bibliography
10. Annexure

1. Introduction

In this section, introduction stated the gravity of the problem selected & plan of the study had been mentioned.

2. Aim & Objective

The study had been planned with following aim & objectives

Primary objective

A clinical study of Apamarga Siddha Tail Nasya in the management of Manyastambha w.s.r. to Cervical Spondylosis.

Secondary objective

To study the Nasya Karma in detail.

To study the Manyastambha in detail.

To study the Cervical Spondylosis in detail.

3. Review of literature

The section review of literature deal with the literature of Manyastambha containing historical review, Samhita review, etymology, Nidan, Samprapti & treatment.

Detail of Nasya Karma, Nirukti, types, Nasyarha, Anasyarha, Matra Detail of cervical spine, cervical spondylosis.

Details of drug like there Rasa, Virya, Veepaka, Guna, Doshadhnata, properties, part use etc. are described.

4. Materials & Methods

This section includes Tail Nirmana Vidhi from respective drug, sample selection technique, phases of trial, study design, selection criteria, plan of work & treatment in detail.

5. Observations & Results

This was a part of research which included outcome of study. This section included that paints are presentation of data like age, gender, habitat, occupation, nature of occupation, economic status, marital status, Agni, Koshtha, Prakruti, Bala wise discussion & result are present in tabular & graphical form with statistical analysis & overall effect of therpay was shown in percentage relief.

6. Discussion

Discussion was the link between finding i.e. observation & result. In this section it included discussion of disease Manyastambha, discussion of action of Apamarga Siddha Tail & discussion on clinical study & its observation & result.

7. Conclusion

This section deals with result obtained from whole research work.

8. References

References from different Samhita, modern medical books are given under this heading which was used to write the research work.

9. Bibliography

List of Samhita's, modern medical books were given which were used to write the research work.

10. Annexure

This section included the documents like informed consent, case record form, master chart & standardization certificate.

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Materials & Methods

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ABBREVIATION

1. C. S. - Charka Samhita
2. S. S. - Sushruta Samhita
3. A. H. - Ashtanga Hrudaya
4. A. S. - Ashtanga Sangraha
5. B. P. - Bhavaprakasha
6. B. R. - Bhaishajya Ratnavali
7. B. K. - Bhaishajya Kalpana
8. Sha. S. - Sharangdhar Samhita
9. M. N. - Madhavanidan
10. C. D. - Chakradatta
11. V. S. - Vangasen Samhita
12. Y. R. - Yogaratnakara
13. K. S. - Kashyapa Samhita
14. A. T. - After treatment
15. B. T. - Before treatment
16. & - And
17. M - Male
18. F - Female
19. VP - Vata- Pitta
20. VK - Vata- Kapha
21. PV - Pitta- Vata
22. PK - Pitta- Kapha
23. KV - Kapha- Vata
24. KP - Kapha- Pitta
25. F/U - Follow Up

INFORMED CONSENT

I, Shri/Smt/Ku. _____, Age _____ years, Sex M/F, hereby give my consent to participate in the research study entitled:
"A Clinical Study of Apamarga Siddha Tail Nasya in the Management of Manyastambha w.s.r. to Cervical Spondylosis."

I have been fully informed about the nature, duration, procedures, possible complications, and expected benefits of this study in my own language. I agree to undergo the treatment and follow-up.

I am giving this consent voluntarily without any pressure and I have the full right to withdraw at any time.

Date: _____
Name of Patient: _____
Signature/Thumb Impression: _____
Name of Relative/Witness: _____
Signature: _____
Signature of Student/Investigator: _____

Informed Consent Form

मैं/मी _____ आयु _____ वर्ष, स्वेच्छा से इस शोध अध्ययन में भाग लेने के लिए सहमति देता/देती हूँ:

“A CLINICAL STUDY OF APAMARGA SIDDHA TAIL NASYA IN THE MANAGEMENT OF MANYASTAMBHA W.S.R. TO CERVICAL SPONDYLOSIS”

मुझे इस अध्ययन की प्रकृति, अवधि, लाभ और संभावित जोखिमों के बारे में मेरी भाषा में पूरी जानकारी दी गई है। मैं बिना किसी दबाव के इस अध्ययन में भाग लेने के लिए सहमत हूँ और किसी भी समय इससे बाहर निकल सकता/सकती हूँ।

रोगी का नाम व हस्ताक्षर: _____

साक्षी का नाम व हस्ताक्षर: _____

Case Record Form (CRF)

Department of Panchakarma

Patient Information

Date: _____

Name: _____ IPD/OPD No: _____

Address: _____

Age: _____ Sex: M/F

Marital Status: Married / Unmarried / Widow

Occupation: _____

Nature of Work: Sedentary / Physical

Economic Status: Poor / Middle / Rich

Habitat: Rural / Urban

Chief Complaints

Manyashoola (Pain): Present / Absent

Manyastambha (Stiffness): Present / Absent

Gaurava (Heaviness): Present / Absent

Chimchimayana (Numbness): Present / Absent

Cervical Movement Examination

Flexion: _____

Extension: _____

Lateral Flexion: _____

Rotation: _____

History

Past History: _____

Medical History: _____

Surgical History: _____

Family History: _____

Ashtavidha Parikshana

1. Nadi: _____
2. Mala: _____
3. Mutra: _____
4. Jivha: _____
5. Shabda: _____
6. Sparsha: _____
7. Druk: _____
8. Akruti: _____

Dashavidha Parikshana

Prakriti: _____

Vikruti: _____

Sara: _____

Samhanana: _____

Satmya: _____

Satva: _____

Pramana: _____

Ahara Shakti: _____

Vyayama Shakti: _____

Vaya: _____

Bala: _____

Treatment Plan

Procedure: Apamarga Siddha Tail Nasya (7 Days)

Strotasa Parikshana (Detailed)

Pranavaha Strotasa – Nasa, Urah, Kantha

Udakavaha Strotasa – Talu, Kloma, Jivha

Annavaha Strotasa – Oshta, Danta, Amashaya

Rasavaha Strotasa – Nadi, Tvacha

Raktavaha Strotasa – Yakrut, Pliha

Mamsavaha Strotasa – Snayu, Twacha

Medovaha Strotasa – Vrukka

Asthivaha Strotasa – Sandhi, Kesha, Danta

Majjavaha Strotasa – Asthi Sandhi

Shukravaha Strotasa – Vrushana, Upastha

Mutravaha Strotasa – Basti, Pakwashaya

Purishavaha Strotasa – Guda

Swedavaha Strotasa – Meda, Lomakupa

Manovaha Strotasa – Nidra, Smruti, Dhi

Day	Dose	Time
Day 1		
Day 2		
Day 3		
Day 4		
Day 5		
Day 6		
Day 7		

Follow Up

Parameter	Day 0	Day 5	Day 7	Day 15
Gaurava				
Chimchimayana				
Flexion (50°)				
Extension (60°)				
Rotation (80°)				

Assessment

Grade	1:	75-100%	Relief
Grade	2:	50-75%	Relief
Grade	3:	25-50%	Relief

Grade 4: <25% Relief

Signatures

PG Scholar: _____

Guide: _____

STANDARDIZATION CERTIFICATE

CERTIFICATE OF ANALYSIS

Sample name : Apamarg siddha tail **Date : 23/07/2018**

Controll no : 16122016/005

Sr no	Tests	Result
1	Color	Golden yellow
2	Odour	pungent
3	Refractive index (at 25 °C)	1.471±0.001
4	Weight per ml (at 25°C)	0.96gm/ml
5	Acid value *	1.62 ±0.02
6	Saponification value	188.60 ±0.59
7	Peroxide value*	0.14 ± 0.01

*Indicates the significance ($p \leq 0.05$)

"All the tests were performed as per API (Ayurvedic pharmacopoeia of India) guidelines and above drugs has been successfully passed in all test. That's why above mentioned drug can be used in dissertation."