“Study of efficacy of simhasyadi kwatha with eranda taila in gridhrasi.”
Nilesh N. Wagh¹, Piyush M. Purohit², Vishnu B. Giri³

1. Assistant proffeser in Department of Panchkarma ,
2. Assistant Proffeser in Strirog & Prasutitantra
3. Assistant Proffeser in Shalyatantra
S.R.C. Ayurved collage Chikhli Dist. Buldhana, Maharashtra
*Corresponding Author: Mob. 7972248208; Email: drwagh83@gmail.com

ABSTRACT:
Now a day’s everyone is living a rush full life. Busy life schedule means due to which some of us are suffering from various vataj roga. In Gridhrasi, there is a pain in distribution of sciatic nerve from buttocks to thigh, calf and foot. Many formulae have been prescribed for gridhrasi in Ayurveda. Simhasyadi Kwatha with Eranda taila is prescribed by Bhavprakasha. The ingredients of kwatha are Vasa, Danti, and Aragwadha. These drugs possess ushna virya which acts as vata and kaphahara. Along with deepana- pachana karma, do the pachana of ama and thus relieve the symptoms of Gridhrasi. Eranda taila is the prakshepa in this kwatha acts as potentiator. Gridhrasi affects daily routine of the patients and causes lots of difficulties in movements due to tremendous pain. Hence this study has been done to relieve the patients from their painful illness.

KEY WORDS:
Gridhrasi, Simhasyadi Kwatha, Eranda Taila, Vatadosha

INTRODUCTION: Today, busy professional and social life, improper sitting posture in offices, factories, over exertion, jerking movements during traveling and sports these entire factors create platform for the disease. In Gridhrasi, there is a pain in distribution of sciatic nerve from buttocks to thigh, calf and foot. Simhasyadi Kwatha with Eranda taila is prescribed by Bhavprakasha. The ingredients of kwatha are Vasa, Danti, and Aragwadha. These drugs possess ushna virya which acts as vata and kaphahara. Along with deepana- pachana karma, do the pachana of ama and thus relieve the symptoms of Gridhrasi. Eranda taila is the prakshepa in this kwatha acts as potentiator. Gridhrasi affects daily routine of the patients and causes lots of difficulties in movements due to tremendous pain.

AIMS AND OBJECTIVES:
1. Study the efficacy of Simhasyadi kwatha with Eranda taila in Gridhrasi.
2. To evaluate role of Simhasyadi kwath & Erand tail in Gridhrasi.

MATERIAL & METHODS:
This is the third form in the Panchavidha kashaya Kalpana where in the medicinal plant (dravya) is made into the form of Yavakuta, Water is added to it, the mixture is boiled up to certain period so as the water remains 1/2, 1/4 or 1/8th as
mentioned in texts. It is then filtered, the liquid so obtained is called as “Kwatha” i.e. decoction.
Simhanyadi kwatha with Eranda taila is given to the patient in morning and evening in abhakta kala for 30 days.

- SOP of the Simhanyadi kwatha and Eranda taila:
Selection of ingredients and standard operational procedure for preparation of Simhanyadi kwatha for trial is as follows:
Simhanyadi Kwatha is compound drug of following contents- Vasa, Danti, Aragwadha and Eranda taila. All these ingredients are purified and standardized as per ayurvedic method and taken in dry state.
Collection of ingredients:
All drug ingredients are selected as per Indian pharmacopeia. And there is selection of best sample from available regional market.
a) Vasa (Adhatoda vasica) - Dried leave of vasa is selected for decoction from the regional market.
b) Danti (Baliospermum montanum) - Dried root skin (mooltwak) & moola of danti is collected for decoction from the regional market.
c) Aargwadha (Cassia fistula) – Dried bark skin (twaka) of aragwadha is collected for decoction from the regional market.

Simhanyadi kwatha and eranda taila:

| 1 | Dosage of kwattha | 30 ml |
| 2 | Prakshep dravya matra | 10 ml |
| 3 | Kala | Pratih -Sayam(Abhakta) |
| 4 | Duration of Trial | 30 days |
| 5 | Route of Administration | Oral |
| 6 | Follow up | Every 7th day for 4 week |

Properties of simhanyadi kwatha with eranda taila:
It comes under kashay kalpana.

Preparation of simhanyadi kwatha:
Simhanyadi kashaya contain the following contents- Vasa patra, dantimoola, aragwadha shakha twaka taken in equal quantities and Eranda taila as prakshepa dravya.
Vasa(Adhatoda vasica)
Danti (Baliospermum montanum)
Aargwadha (Cassia fistula)
Eranda (Ricinus Communis)

Above kwatha is prepared as per reference of Sharangdhara samhita:

Dravya + Water Δ Kwatha
15 gm + 240 ml = 30 ml

(Each drug is 5 gm & Eranda taila as prakshepa: 10 ml i.e. 2 spoon)

Procedure:-
1. Simhanyadi kwatha ingredients are taken as follows:
a) Bharad churna of Vasa patra, dantimoola, aragwadha shakha twaka, are taken 1 part. i.e. 15 gm (each drug- 5 gm) and eranda taila 10 ml (two table spoon) as prakshepa dravya.
b) Water 16 part (240 ml) is added to above Simhanyadi kwatha.
2. The above mentioned mixture is boiled and stirred well continuously till it remains 1/8th or original (i.e. 30 ml). Thus in the prepared mixture according to reference add Eranda taila (i.e. 10 ml).
that’s why it eliminate kapha-pitta dosha. Vasa are anti-inflammatory, antibacterial, analgesic. Its internal use causes vasodilatation and stimulates the vagus nerve. This increases the heart rate, act as diuretic and lowers the blood pressure.

Danti is tiksna, ushna, katu rasa pradhan, katu vipaki and ushna veerya that’s why it eliminates kapha-pitta dosha. Its effect is strong purgative (tiksna virechana). And it also has ashukari and vikasi properties. So by the above characteristics it eliminates mala from the koshta.

Aragwadha is guru, snigdha, madhura, tikta rasa pradhan, madhura vipaki, vikasi rasa pradhan, madhura vipaka and ushna veerya. That’s why it eliminate kapha-vata dosha. It is also purgative. Its action is srotovishodhana, twachya, vrisya, medha, kanti and bala wardhana. Thus the properties of Simhasyadi kwatha are tridosha shamaka, srotovishodhana, shothgna, shulagna. So it is analgesic, anti-inflammatory and srotovibandha nashak.


e|l|e|e

| Sr. | Parameters on visit | 1st day | 7th day | 14th day | 21 day | 30 day |
|-----|---------------------|--------|--------|---------|--------|--------|
| 1   | Complete History    |        |        |         |        |        |
| 2   | Inform consent      |        |        |         |        |        |
| 3   | Physical Examination|        |        |         |        |        |
| 4   | Case recording      |        |        |         |        |        |

Selection of patients:
All patients of Gridhrasi from OPD and IPD of institute had been selected irrespective of sex, marital status, prakruti, Region, Economical status, Education, Occupation. Patients visiting IPD or OPD at the hospital were selected for the study.

Procedure:
1. Permission for conduction of trial and no objection certificate from Institutional Ethics committee was taken.
2. Written informed consent was taken from every patient.
3. Proper case history was taken and special case record was prepared.
4. Clinical findings were recorded as per case Performa.

Inclusion criteria:
Patients having signs and symptoms: Shoola, Stambha, Spandana, Graha, Grudhravata Chalana.
Patient having age between 20 to 70 yrs from both sexes.
Patient with either leg is affected
SLR test is taken as objective criteria for diagnosis as well as for gradation of improvement.

Exclusion criteria:
Patient of gridhrasi involving any structural deformities and needs surgical intervention.
Complicated cases like Potts spine, vertebral fractures, acute vertebral disc prolapse, vertebral
fusion/Herniadian/sacralisation
Patient having long term illness since long
time and systemic pathogenesis e.g.
cardiac, renal, D.M., autoimmune diseases,
syphilitic disorders.
Neoplastic lesions, bone carcinoma,
neurofibrocarcinoma of Pelvis organs,
PID.
Age below 20 and above 70 years
Pregnancy and PNC.
Patient with bilateral involvement.
Dropout criteria:
Patient that has not taken medicines for a
period of 1 week.
Patient who has not visited for next follow
ups were considered as dropped out from
this project.
Ethical consideration:
1) NOC was issued from IEC (Institutional
Ethical Committee)
2) Written consent of patient was taken
initially.
Criteria for assessment:
Objective parameter:
As shoola, stambha, toda, spandana, graha
are subjective, so to convert them into
objective parameters, following methods
were applied.
Objective parameter for shoola (pain):

Oxford Pain Chart:

| Grade | Severity of pain                                        |
|-------|--------------------------------------------------------|
| 0     | No pain                                                |
| 1     | Mild pain precipitating time to time with heavy movement |
| 2     | Moderate pain- continuous pain during movement          |
| 3     | Severe pain-patients unable to do any movements         |

Objective parameter for stambha, toda, spandana, graha:
Visual Analog scale:

This observation is recorded on visit 1st, 7th, 14th, 21st and 30th day.
There is 10 cm long scale for assessment of overall relief. There is ‘O’ Marking on left hand
side & ‘10’ Marking on right hand side ‘O’ indicates complete relief while ‘10’ indicate
severity of symptoms. Patients were asked to grade their severity of rigidity, pricking,
throbbing, pulsating sensation and other allied complaints on scale. Markings were defined
accordingly in number.

\[
\text{VAS} \quad 0 \quad \frac{\text{Ibt - Iat}}{\text{Ibt}} \times 100 \quad 10
\]

Percentage of relief = \( \text{Ibt} - \text{Iat} \times \frac{100}{\text{Ibt}} \)

Ibt – Intensity of symptom before treatment.
Iat - Intensity of symptom after treatment.

Criteria for gradation of Visual Analogue Scale:

| Grade | Visual Analogue Scale Score |
|-------|----------------------------|
| 0     | 0                          |
| 1     | 1 to 3                     |
Walking time:
Walking time of every patient for the distance of 25 meter was recorded on 1\textsuperscript{st}, 7\textsuperscript{th}, 14\textsuperscript{th}, 21\textsuperscript{st} and 30\textsuperscript{th} day.

SLR test:

| Grade | Angle of Affected Leg |
|-------|-----------------------|
| 0     | 81\degree -90\degree |
| 1     | 51\degree -80\degree |
| 2     | 30\degree -50\degree |
| 3     | below 30\degree       |

Coin Test:
Patient is made to stand in straight position, and then the patient is asked to pick up the coin from the floor without bending knee. If the patient feels pain while picking the coin then the test is positive.
According to severity of pain, gradations are done-(Table 16)

| Grade | Criteria                                 |
|-------|------------------------------------------|
| 0     | Can easily pick up the coin              |
| 1     | Can pick up the coin with minimum pain   |
| 2     | Can pick the coin with moderate pain     |
| 3     | Can’t Pick                               |

Investigations:
X-ray LS spine AP, LAT view was done in certain patients with severe pain.

Objective parameters: Score

| Lakshana | 1  | 7  | 14 | 21 | 30 |
|----------|----|----|----|----|----|
| Shoola   |    |    |    |    |    |
| Stambha  |    |    |    |    |    |
| Toda     |    |    |    |    |    |
| Spandana |    |    |    |    |    |
| Graha    |    |    |    |    |    |

Objective parameters: Score
Observation | Visit 1 | Visit 7 | Visit14 | Visit21 | Visit30
---|---|---|---|---|---
Oxford Pain chart
Walking time
S.L.R Test
Visual Analog scale
Coin Test

**METHOD OF STATISTICAL ANALYSIS:**

H₀ = this hypothesis suggests that the treatment is not effective
H₁ = this hypothesis suggests that the treatment is effective
Where,
S.D. = Standard Deviation
n = No. of sample
S.E. = Standard Error
\[ X^2 = \text{Square of difference} \]
\[ \sum X^2 = \text{Total sum of squares of differences} \]
\[ \sum X = \text{sum of total differences} \]
\[ \text{Mean} = \frac{X}{n} \]
\[ \text{S.D.} = \sqrt{\frac{(X-\bar{X})^2}{(n-1)}} \]
\[ \text{S.E.} = \frac{\text{S.D.}}{\sqrt{n}} \]

Paired t Test

\[ t = \frac{X}{\text{S.E.}} \]

Criteria for assessment of statistical significance:
P > 0.05 = not significant
P < 0.05 and > 0.001 = significant
P < 0.001 = highly significant

**OBSERVATION AND RESULTS**
The patients were analyzed according to various factors like age, sex, religion, educational status, marital status, socioeconomic status, occupation, prakruti, diet habits, type of Gridhrasi, according to leg affected. Detailed observations are shown in subsequent tables & graphs for easy understanding.

| Gender   | No. of patients | Percentage (%) |
|----------|----------------|---------------|
| Male     | 11             | 37            |
| Female   | 19             | 63            |

Above observations shows that incidence of Gridhrasi is maximum in Females i.e. 63%

**DISTRIBUTION OF CASES ACCORDING TO AGE:**

| Age group | No. of patients | Percentage (%) |
|-----------|----------------|---------------|
| 31-40     | 10             | 33            |
| 41-50     | 11             | 37            |
| 51-60     | 6              | 20            |
Minimum age of patient was 32yrs. And maximum age was 63 yrs. Maximum patents were recorded in age group of 41-50 (i.e. 37%) & minimum patients recorded in age group of 61-70 (i.e. 10%).

**DISTRIBUTION OF CASES ACCORDING TO RELIGION:**

| Religion | No. of patients | Percentage (%) |
|----------|-----------------|----------------|
| Hindu    | 23              | 77             |
| Muslim   | 5               | 17             |
| Other    | 2               | 6              |
| Total    | 30              | 100            |

The table shows that Hindu patients were recorded 77% whereas Muslims were 17% & others 6%.

**DISTRIBUTION OF CASES ACCORDING TO EDUCATIONAL STATUS:**

| Educational status | No. of patients | Percentage (%) |
|--------------------|-----------------|----------------|
| Educated           | 18              | 60             |
| Uneducated         | 12              | 40             |
| Total              | 30              | 100            |

At a glance, the table reflects that 40% patients were uneducated, 60% were educated.

**DISTRIBUTION OF CASES ACCORDING TO MARITAL STATUS:**

All patients were married i.e. incidence of Gridhrasi was maximum in married couple i.e. in middle age group.

**DISTRIBUTION OF CASES ACCORDING TO SOCIO-ECONOMIC STATUS:**

| Socio-economic status | No. of patients | Percentage (%) |
|-----------------------|-----------------|----------------|
| Middle class          | 20              | 73             |
| Lower class           | 10              | 27             |
| Total                 | 30              | 100            |

The table shows that 73% patients were belonging to middle class, 27% belonging to lower class.
DISTRIBUTION OF CASES ACCORDING TO OCCUPATION:

| Occupation     | No. of patients | Percentage (%) |
|----------------|-----------------|----------------|
| Household      | 16              | 54             |
| Office job     | 3               | 10             |
| Driver         | 3               | 10             |
| Watchmen       | 2               | 7              |
| Farmer         | 2               | 7              |
| Police         | 1               | 3              |
| Teacher        | 1               | 3              |
| Tailor         | 1               | 3              |
| Shopkeeper     | 1               | 3              |
| **Total**      | **30**          | **100**        |

Table shows that maximum patients of Gridhrasi were noticed household group i.e. 54% (housewives) and remaining from other working professions i.e 46%.

DISTRIBUTION OF CASES ACCORDING TO PRAKRUTI:

| Prakruti   | No. of patients | Percentage (%) |
|------------|-----------------|----------------|
| Vata       | 2               | 7              |
| Pitta      | 0               | 0              |
| Kapha      | 0               | 0              |
| Vata-pitta | 8               | 27             |
| Kapha-pitta| 7               | 23             |
| Kapha-vata | 13              | 43             |

The table shows that maximum patients of kaphavataja prakruti are more prone to disease i.e. 43%. Vatapittaja prakruti i.e. 27%, kaphapittaja prakruti i.e. 23% and 7% of vataja prakruti

DISTRIBUTION OF CASES ACCORDING TO TYPE OF GRIDHRASI:

| Type of Gridhrasi | No. of patients | Percentage (%) |
|-------------------|-----------------|----------------|
| Vata              | 12              | 40             |
| Vata-kapha        | 18              | 60             |
Out of 30 patients 60% patients were suffered from vata-kaphaja Gridhrasi and 40% patients from vataja Gridhrasi.

### DISTRIBUTION OF CASES ACCORDING TO LEG AFFECTED:

| Leg | No. of patients | Percentage (%) |
|-----|-----------------|----------------|
| Right | 17 | 57 |
| Left | 13 | 43 |
| Total | 30 | 100 |

The table shows that left leg was more affected i.e. 43% than right i.e. 57% in Gridhrasi patients.

### OBSERVATIONS ACCORDING TO OXFORD PAIN CHART:

| Gradation | Absent | Mild | Moderate | Severe | Total |
|-----------|--------|------|----------|--------|-------|
| BT        | 0      | 3    | 17       | 10     | 30    |
| AT        | 3      | 5    | 12       | 10     | 30    |

Before treatment 10 patients were having severe pain, 17 patients were having moderate pain and 3 patients were having mild pain. After treatment 10 patients were having severe pain 12 patients were having moderate pain and 5 patients were having mild pain and 3 patients got complete relived.

### OBSERVATIONS ACCORDING TO STAMBHA:

| Gradation | Absent | Mild | Moderate | Severe | Total |
|-----------|--------|------|----------|--------|-------|
| BT        | 0      | 3    | 19       | 8      | 30    |
| AT        | 3      | 7    | 14       | 6      | 30    |

Before treatment 8 patients were having severe stambha, 19 patients were having moderate stambha and 3 patients were having mild stambha. After treatment 6 patients were having severe stambha 14 patients were having moderate stambha and 7 patients were having mild stambha and 3 patients got complete relived.
| Variable | Mean of difference | S.D | Applied test | Test statistic | P Value | Significance |
|----------|--------------------|-----|--------------|----------------|---------|--------------|
| Toda     | -0.2000            | 0.4068 | Paired t-test | -2.693         | 0.0117  | Significant  |

OBSERVATIONS ACCORDING TO TODA:

| Gradation | Absent | Mild | Moderate | Severe | Total |
|------------|--------|------|----------|--------|-------|
| BT         | 0      | 3    | 18       | 9      | 30    |
| AT         | 3      | 2    | 17       | 8      | 30    |

Before treatment 9 patients were having severe toda, 18 patients were having moderate toda and 3 patients were having mild toda. After treatment 8 patients were having severe toda 17 patients were having moderate toda and 2 patients were having mild toda and 3 patients got complete relived.

| Variable | Mean of difference | S.D | Applied test | Test statistic | P Value | Significance |
|----------|--------------------|-----|--------------|----------------|---------|--------------|
| Spandan  | -0.3333            | 0.4795 | Paired t-test | -3.808         | 0.0007  | Significant  |

OBSERVATIONS ACCORDING TO SPANDANA:

| Gradation | Absent | Mild | Moderate | Severe | Total |
|------------|--------|------|----------|--------|-------|
| BT         | 0      | 4    | 23       | 3      | 30    |
| AT         | 2      | 10   | 15       | 3      | 30    |

Before treatment 3 patients were having severe spandana, 23 patients were having moderate spandana and 4 patients were having mild spandana. After treatment 3 patients were having severe spandana 15 patients were having moderate spandana and 10 patients were having mild spandana and 2 patients got complete relived.
Before treatment 10 patients were having severe graha, 17 patients were having moderate graha and 3 patients were having mild graha. After treatment 10 patients were having severe graha 11 patients were having moderate graha and 6 patients were having mild graha and 3 patients got complete relieved.

| Variable | Mean of difference | S.D | Applied test | Test statistic | P Value | Significance |
|----------|--------------------|-----|--------------|----------------|---------|--------------|
| Graha    | -0.3000            | 0.4661 | Paired t-test | -3.525        | 0.0014  | Significant  |

OBSERVATIONS ACCORDING TO WALKING TIME:
Average walking time before treatment: 29.7 sec.
Average walking time before treatment: 27.83 sec.
According to walking time there is average improvement. But during the study it is seen that there was no improvement in walking time of severe patients of gridhrasi.

| Variable | Mean of difference | S.D | Applied test | Test statistic | P Value | Significance |
|----------|--------------------|-----|--------------|----------------|---------|--------------|
| W.T.     | -1.8667            | 2.8616 | Paired t-test | -3.573         | 0.0013  | Significant  |

OBSERVATIONS ACCORDING TO SLR GRADATION:

| Gradation | Absent | Mild | Moderate | Severe | Total |
|-----------|--------|------|----------|--------|-------|
| BT        | 0      | 3    | 17       | 10     | 30    |
| AT        | 2      | 2    | 16       | 10     | 30    |

Before treatment 10 patients were having SLR below $50^0$ & 17 patients were having SLR between $51^0-70^0$ and 3 patients between $71^0-90^0$. After treatment 10 patients were having SLR below $50^0$ 16 patients were having SLR between $51^0-70^0$ 2 patients were between $71^0-90$ and only 2 patients got complete relieved.

| Variable | Mean of Difference | S.D | Applied test | Test statistic | P Value | Significance |
|----------|--------------------|-----|--------------|----------------|---------|--------------|
| S.L.R.T   | -0.1000            | 0.3051 | Paired t-test | -1.795        | 0.0831  | Not Significant |

OBSERVATIONS ACCORDING TO COIN TEST:

| Gradation | Absent | Mild | Moderate | Severe | Total |
|-----------|--------|------|----------|--------|-------|
| BT        | 0      | 3    | 17       | 10     | 30    |
| AT        | 3      | 6    | 11       | 10     | 30    |
Before treatment 17 patients were having moderate pain while picking the coin and after treatment 11 having moderate pain. Before treatment 3 were having mild pain and after 6 can pick up coin with mild pain. In severe cases there is no change and at the end of treatment only 3 can pick up coin easily.

| Variable | Mean of Difference | S.D | Applied test | Test statistic | P Value | Significance |
|----------|--------------------|-----|--------------|----------------|---------|--------------|
| C.T.     | -0.1667            | 0.3790 | Paired t-test | -2.408 | 0.0226 | Significant |

**GRAPHICAL REPRESENTATION OF RESULT OF TREATMENT:**

|        | Mean Pain | Mean Stambha | Mean Toda | Mean Spandana | Mean Graha | Mean walking time | Mean S.L.R Test | Mean Coin Test |
|--------|-----------|--------------|-----------|---------------|------------|-------------------|-----------------|----------------|
| BT     | 2.233     | 2.167        | 2.2       | 1.967         | 2.233      | 29.7              | 2.233           | 2.233          |
| AT     | 1.967     | 1.767        | 2         | 1.633         | 1.933      | 27.83             | 2.133           | 2.067          |

So the graphical representation of treatment shows that there is a positive result in near about all symptoms of gridhrasi but the S.L.R gradation remains unchanged.

**STATISTICAL ANALYSIS:**

| Parameter | X (mean diff.) | SD   | Test statistic | P value | Significance |
|-----------|----------------|------|----------------|---------|--------------|
| Shoola    | -0.2667        | 0.4498 | -3.247         | 0.0029  | Significant  |
| Stambha   | -0.4000        | 0.4983 | -4.397         | 0.0001  | Significant  |
| Toda      | -0.2000        | 0.4068 | -2.693         | 0.0117  | Significant  |
| Spandan   | -0.3333        | 0.4795 | -3.808         | 0.0007  | Significant  |
| Graha     | -0.3000        | 0.4661 | -3.525         | 0.0014  | Significant  |
| Walking Time | -1.8667     | 2.8616 | -3.573         | 0.0013  | Significant  |
LITERATURE REVIEW:

Ayurvedic Review

Gridhrasi Vyutpatti:

The word “Grudhra” is made from dhatu “Gridhu”. The meaning of dhatu “Gridhu” is to desire, to convert, to strive after greedily.

“Karan” prataya is added to this and then by the lopa of K and N the word Grudhra is derived. By the rule of atomapasarga, “kah” prataya is added to Grudhra + sho. Hence it is forming Grudhrat+ sho + ka. By the lopa of “o” and “k”, “sha” is replaced by the rule “Dhatvadeh shah sah” and in female gender “angish” prataya is added to form the word “Gridhrasi”.

Niruki:

Shabdakalpadruma states that the word “Gruda” refers to a person who is crazy for eating meat. The word “Syati” in Sanskrit means to cause suffering (throwing action). Thus the word Gridhrasi applies to an illness that mostly attacks the person who is greedy of consuming meat. Grudhra means vulture. Vulture is fond of meat and has a particular fashion of eating meat. It pierces its beak deeply in the flesh and then draws it forcefully. Such a type of severe pain is experienced by the patient in Gridhrasi. Hence justifiably its name is as Gridhrasi. Also because of persisting severe pain the patient has a typical gait i.e. slightly tilted towards the affected side and affected leg in flexed position and another leg is extended. This gait resembles with that of vulture. So disease is named as Gridhrasi.

Paribhasha:

As described by Charaka, Gridhrasi is a Vatavyadhi characterized by Stambha (Stiffness), Ruk (pain), Toda (pricking pain) and Spandana (frequent twitching). These symptoms initially affect Sphik (buttock) as well as posterior aspect of Kati and then gradually radiates to posterior aspect of Uru (thigh), Janu (knee), Jangha (calf), Pada (foot). Sushruta describes that there are two Kandara in the leg that gets affected. The two Kandara include the one extending distally from the Parshni to the toes and other extending above from the parshni to the Vitapa. These two Kandara when get affected with Vata dosha limits the extension of the leg. This disease is known as Gridhrasi.

Paryaya:

1) Ringhinee: To cause creep or crawl, go slowly. (Antanka Darpana Ma.Ni. 22/54)
2) Ranghinee: Dalhana – Nibandhasangrahaka – (S.S. ni. 1/74)
3) Radhina: GoodharthaDeepika – (Sha-S.P. Kh.-7/108.)

Bheda:

Gridhrasi is mentioned under both, Samanyaja and Nanatmaja Vatavyadhi. In Nanatmaja Vatavyadhi there is involvement of a single dosha in a disease and Roopa, Karma, and Lakshnas of only that dosha is observed. In Saamanyaja Vatavyadhi along with vata there is involvement of other doshas also. Thus Gridhrasi is of Vataja and Vatakaphaja type.

According to Harit Samhita there is involvement of

| SLR Test | Coin Test |
|----------|-----------|
| -0.1000  | -0.1667   |
| 0.3051   | 0.3790    |
| -1.795   | -2.408    |
| 0.0831   | 0.0226    |
| Not Significant | Significant |
Rakta dhatu. Sushruta acharya, Vagbhata acharya, Bhavamishra also emphasized in their samhitas that Vata is the predominant dosha in the manifestation of Gridhrasi.

DISCUSSION:
In this era where people are immersed in the thought, how to make more money within short span of life that makes the human more vulnerable to different diseases. People don’t have time for themselves for their health, so they don’t follow proper dinacharya, ritucharya and pathya-apathy which act as pathway to number of diseases.

As vata among the tri-doshas gets easily vitiated compared to other doshas it has to be taken special care, vata is mainly vitiated due to dhatu kshaya and margavarodha, this vitiated vata hampers the daily routine work of a person and make them dependent on others.

Gridhrasi as we see is not a disease of a recent origin, it was present from the time immortal, this is because of the strenuous work done by the people in olden days or due to travelling on the horses, chariots and other mode of transports. Today the incidence is due to improper postures, the heavy load of work is specially bending and suddenly getting up, carrying heavy loads that lead to sciatica. Vyadhi synonymously stands for pain, which unless hampers the routine work of individual, is not bothered much. Gridhrasi is one of such disease.

Discussion on the review of literature:
Gridhrasi has been mentioned in both ayurvedic and modern text. The nirukti of gridhrasi says the person walks like or rather hops like gridra (vulture), modern context describes that a person suffering from sciatica has a limping gait which can be correlated with the gridra as told in gridhrasi.

Nidanas told in ayurveda are classified under aharaja and viharaja. In the context of sciatica in western medicine more stress has been giving in relation to the occupation and work as a causative factor. Avyakta lakshnas are told as the poorvaroopa of all the vata vyadhi still it is seen that constipation and backache are the prodormal symptoms before it starts radiating.

The roopas of gridhrasi are ruk (shoola), toda, stambha, spandana, gouravam, aruchi. The pain starts from the spikha and radiates towards kati, uru, jangha, pada. The similar pattern of pain has been mentioned in modern that the pain starts from lumbar region that radiates backside up to the foot.

Due to the vata-prakopaka nidana sevana there will be increase of vata that will undergo sanchaya and prakopa due to kapha prakopa due to kapha prakopaka nidana sevana this will lead to mandagni and there will be production of ama and it will vitiate mamsa, rakta, sira, snayu, kandara and finally sthansamshraya of both the doshas will take place in kati, sphik pradesha and cause gridhrasi. In modern certain degenerative changes happens which due to the age factor or due to trauma. It can be correlated to the dhatukhaya that occurs due to vata prakopa.

Discussion on the plan of study:
For the present study, 30 patients were selected from the O.P.D of the hospital attached to our college. The selection of patients based on the signs and symptoms mentioned in classics. Total 32 patients came for the treatment in the beginning, out of which 2 patients left during the follow ups. 30 patients received simhasyadi kwatha 30ml and eranda taila
10ml in morning and evening before meal for 30 days. The dose of eranda taila tapered as per requirements. All patients are between the age group 30-65 years. Patients above 65 years come under vriddha avastha and they may not tolerate the medicine.

Pregnant and lactating mothers were excluded from the study as they cannot be given the teekshna aushadhi and may cause harmful effects on the baby. Patients having major illness since long time like PID, RA, DM, HTN, disc prolapse are excluded.

Condition of the patient is documented in case sheet and their response to the medicine is analyzed as per the grading mentioned for various symptoms. The overall effect of the therapy assessed in terms of no change, mild-moderate-marked improvement and complete relief.

Discussion on observation during the study:
After focusing on the observations made and analyzing the raw data, we get the result that the drug is effective in a conducted trial.
The trial was conducted on a sample size of thirty.
In assessment criteria,
- Pain and Graha (lumber region to the soles of foot) are recorded by Coin Test.
- Stambha, Toda, Spandana, and Graha are recorded by Visual analogue scale.
- SLR angle is recorded for Sakthikshepa nigrah.
- Walking time (in seconds) is taken.
- Oxford pain chart is used for pain assessment.
All tests are carried out before and after the treatment to evaluate the total effect of treatment.
Discussion about the general observations:
1) According to sex:
Female patients were more in number than male patients. It may be due to the etiological factors like exposure to Cold, Pramitashana, Diwasaipa, Abhisyyanti and Paryushita bhojan etc. Hence there is vitiation of Vata dosha as well as Kapha dosha and prone to Gridhrasi.
2) According to age:
Maximum patients were belonging to middle age group. It may be due to working in sitting as well as in standing position for long period of time, excessive travelling, disturbed eating habits etc. All these factors led to increase in Vata dosha and make them prone to Gridhrasi.
3) According to occupation:
House maid, housewives are more prone towards excessive work, irregular diet, Diwaswapa and labors have heavy work which can cause vitiation of Vata dosha. So these people found most affected in this study.
4) According to prakruti:
Patients having Vatakaphaja and Vatapittaja prakruti were found to more prone to Gridhrasi.
5) According to diet:
Patients who have more intake of non-vegetarian diet were found to be much more prone to Gridhrasi.
6) According to disease type:
Vatakaphaj Gridhrasi patients were seen more in number than Vataja Gridhrasi. Cure rate is more in Vatakaphaj type of Gridhrasi.
7) According to symptoms:
All 30 patients had symptoms like pain in Sphik-kati-prishtha-uru-janu-jangha up to Pada and Sakthikshepa along with Toda and Spandana, 11 patients had Arochaka and 18 patients had symptoms like Mukha praseka, Bhaktadwesha as well as Agnimandya. There is more relief
in symptoms like shoola, toda, spandana as compared to stambha and graha.

Discussion on clinical observations:
1) Common etiological factors were seen, as consumption of Katu, Kashaya, Tikta rasa, Ruksha-shita-abhisyandhi bhojana, heavy work, changed lifestyle, lack of exercise and many more causes. Hence most of the patients had Margavarodhjanya samprapti of Vataprapaka causing Gridhrasi.
2) Patients in primary stages of disease give good results as compared to chronic patients.
3) The aushadhi yoga is found to be more effective or shows earlier effect in Vatakaphaja prakruti.
4) Among 30 patients, 17 got mild to moderate relief from symptoms in 3rd week of treatment. 3 patients got complete relief in 4th week of treatment and 10 patients had no relief in symptoms.
5) As per reference in Bhavprakash, the aushadhi yoga can cure Gridhrasi completely, but it is found that there was no relief in severe and chronic patients of gridhrasi. Also there was a recurrence of symptoms in 5 patients among 30 patients.
6) In this study the numbers of dropouts were two patients. It is due to inconvenience in drug intake, less palatability of drug, and long duration of treatment (1 month).
7) Side effects: No major or adverse side effects were observed.

Two patients were having H/O nausea and headache which were later on subsided by Pittashamana. Three patients were having H/O diarrhea may be due the purgative action of danti, aragwadha and eranda which were later on subsided by holding of drug.

Discussion on mode of action of drug:
To understand mode of action of drug we have to go through the vyadhi samprapti & the chief factors responsible for samprapti & then constituents of medicine responsible for samprapti bhang.

If we consider Gridhrasi, it is included in Nanatmaja Vatavyadhi. Hence Vata prakopa in Gridhrasi occurs in 2 ways: Dhatukshayajanya Vata prakopa Margawrodhajanya Vata prakopa

**SAMPRAPTI VICHAR:**
Rog Marga: Madhyama roga marga Swabhava: Chirakari
Samprapti Ghatak:
Nidana: vataprapakaka nidana Dosha: Vata-Apana, Vyana, Samana. Kapha- Shleshaka, kledaka Dushya: Mamsa, Asthi, Majja, Sira, Snayu, Kandara Agni: Jathargni Ama: jatharagnimandyajanita

Udbhavasthana: Pakwashaya Sancharasthana: Adhoshakha Adhishthana: Prishta, Kati, Spik Srotasa: rasavaha, Mansavaha, Asthivaha, Majjavaha Srotodushti: Sanga Vyakti: Spik, Kati, prishtha, Uru, janu, Jangha, Pada

Bheda: Vataja and Vatakaphaja

**CONSTITUENTS OF MEDICINE:**
1. Simhasyadi kwatha (30ml)
2. Eranda Taila (10ml)

**PRADHANA RASA:** Katu, tikta

**VIPAKA** : Katu

**VIRYA** : Ushna

Due to properties of Eranda taila like Ushna virya, Madhura Vipaka and Kapha Vataghnata, in combination the whole aushadhi yoga specially acts on abnormally increased Vata and kapha.
doshas thus acts as rejuvenating, analgesic, Medhya, relieving body ache in Gridhrasi. 

PROPERTIES OF KATU RASA AND TIKTA RASA: 
Katu & tikta rasas are Kaphagna in nature. As all ingredients of Simhasyadi kwatha are Ushna (Ushna virya), they act as Vatkaphagna in nature and have shoolaghna property. If we concentrate on their properties we will come to know that, “Gamitva” of molecules (sookshma aushadhi bhag with ahara rasa) is mainly towards Rasa, Rakta, Mamsa, Meda and Majja dhatu. By the property of Margavrodhnashana, Srotovishodhana and Mrudvikarana of rigid body parts, it is best to relieve Sandhibandha, Spandana and Stambha. Also if we go through the other properties of constituents, all constituents are Ushna, Tikshna, Snigdha in properties hence useful for toda nashana. Ingredients are Shoolaghna in nature. So, in all the ways Simhasyadi kwatha is tridosha shamaka. It eliminates all three vitiated doshas. It is analgesic, anti-inflammatory. So it relieves pain in gridhrasi. It also acts as nerve tonics and increases strength and confidence of the patient. Hence by the above properties, Simhasyadi kwatha with eranda taila found to be very useful and effective in samprapti bhanga of both type, but found to be more effective in vata-kaphaja gridhrasi.

BHESHAJA SEVANA KALAVADHI- 1 MONTH
According to Dhatu-poshana Nyaya, any medicine takes near about 1 month to reach up to the shukra dhatu.

As in gridhrasi almost all dhatu dushti is present, one should take medicine at least for period of 1 month.

PHALSHRUTI OF YOGA:
It is also useful in diseases including lakshanams of Siragata vata, Snayu gata vata, Kaphavrutta vata where Sira, Dhamani, Snayu and Kandara got more affected.

PHARMACODYNAMICS of Simhasyadi kwatha:
- Rasa: Katu, tikta
- Virya: Ushna
- Vipak: Katu
- Doshaghnata: Vata (Samana, Vyana, Apana) Kapha (Kledaka, Sheshaka)
- Dooshya: Dhatu-Rasa, Rakta, Mansa, Meda, Asthi and Majja
- Updhatu- Sira, Snayu, Kandara
- Srotasa: Rasvaha, Raktavaha, Asthivaha, Majjavaha, Purishvaha
- Sevankaal: Prathakaal- Sayamkaal (Abhakta) (Empty stomach in morning and evening)
- Kal-maryada: 1 month (30 days)

Probable mode of action of simhasyadi kwatha: The ingredients of this kwatha are Vasa, Danti and Aragwadha. These drugs also possess ushna veerya which acts as vata and kaphahara. Along with deepana and pachana karma brought by this kwatha helps in the pachana of ama and thus helps in relieving the symptoms of both types of Gridhrasi.

Role of Eranda taila as Prakshepa: Eranda taila which is the prakshepa in this kwatha acts as potentiator. It Possess the quality like snigdha, teekshna that helps it to penetrate into the minute sorts of the body and as it
has vata anulomana property it does the shodhana karma. It also has the vedana shamaka property.

Probable mode of action of Simhasyadi kwatha with Eranda taila on subjective and objective parameters:

Ruk/Shoola, Toda and Spandana-
Due to teekshna and sara guna it acts as rechana thereby doing vata anulomana and helps in pacifying pain. As the formulation has vatahara karma it reduces toda. Due to teekshna guna, it acts as sookshma srotogami and reduces kapha by normalizing the gati of vata and hence reducing spandana.

Gourava- Due to katu tikta rasa and katu vipaka of the formulations, it suppresses kapha and relieves gourava.

Aruchi- The properties like laghu, ruksha gunas helps to promote the quality of jatharagni, helps in the shaman of ama and thus helps in reducing aruchi.

Stambha and Graha- Due to katu vipaka and ushna virya it acts antagonist to kapha dosha and therefore reduces stambha and graha.

SLR test and Coin test- The formulation has given positive response in the above objective parameters. Due to reduction in the severity of symptoms in the patient, gradation changed during the tests. That shows the relief in the patients.

SUMMARY:
The present study entitled ‘Study of efficacy of Simhasyadi Kwatha with Eranda Taila in Gridhrasi.’ This comprises of five sections:

SECTION 1:-
This section is sub classified by two chapters namely ‘Ayurvedic review’ and ‘Modern review’. The first chapter deals with the Ayurvedic review of Gridhrasi. In this chapter first of all a detail description regarding Gridhrasi according to Ayurvedic point of view has been given which contains historical review, Vyutpatti, Nirukti, Paribhasha, Nidana panchaka, Vyavacchedaka Nidana, Sadhya- asadhyatva and Pathya–Apathya. Then chikitsa sutra of Vatavyadhi with special reference to Gridhrasi has been elaborated. The second chapter deals with the description of Sciatica from modern point of view presented with the definition, anatomy and physiology of sciatic nerve, etiology, pathology, sign and symptoms and the diagnosis of sciatica. The management and the preventive measures of sciatica have been discussed. Also it shows previous research work done on Gridhrasi.

SECTION 2:-
This section termed as ‘Drug review’ commences with a description and properties of drug selected for the study. As well as it shows the pictures of whole drug and its collected parts.

SECTION 3:-
This section entitled as ‘Clinical study’ presents with the detailed description of the selection of patients, methods adopted for the research work, study design, criteria for assessment. Thereafter the results obtained with statistical analysis in this study have been given in the form of Graphs and Tables.

SECTION 4:-
This section contains ‘Discussion’ which describes the logical interpretation of results obtained in the clinical study, the mode of action of drug based on Ayurvedic and modern principles.

SECTION 5:-
After analyzing the data and the observations carefully, Conclusion drawn from the present study and it is discussed in the last chapter.

CONCLUSION:
After analyzing the data and the observations obtained from the clinical study, we have come to conclusion that “Simhasyadi kwatha (30ml) along with Eranda Taila (10ml)” given orally in morning and evening is found to be effective in Gridhrasi.

As Sushruta acharya said that nidan parivarjana is the first line of treatment, it has major role in controlling the progression of Gridhrasi. During the trial (research work) the patients who did not follow the pathya-aphathy strictly has less reduction in symptoms.

Chronicity of the disease was definitely affecting the strength of the patient as well as the effect of aushadhi yoga. In this study it is seen that in chronic patient of gridhrasi aushadhi yoga was less effective. Also in patients with severe symptoms of gridhrasi the effect of aushadhi yoga was not enough.

This data has shown the statistically significant results as “P” < 0.001.

This ayurvedic medicine (aushadhi yoga) is significantly effective in “Vatakaphaja Gridhrasi” as well as in “Vataja Gridhrasi” Simhasyadi kashaya with eranda taila proved to be more efficient in treating symptoms like aruchi, gaurava, shoola, toda, spandana.

The study reveals that the trial drug was safe and no severe adverse, toxic or side effects of of yoga were noticed.

All ingredients of this aushadhi yoga are easily available in local market and they are cost effective.

This study is a small scale trial including sample size of 30 only. The size of sample was small to draw out a definite conclusion.

To get more specific results study should be carried on large sample size. The same medicine can be given to the patients along with panchakarma procedures and comparative study can be done to see which is more effective.

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Nilesh N. Wagh, Piyush M. Purohit, Vishnu B. Giri

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