

STUDY THE EFFICACY OF HAPUSHADI YAPANA BASTI IN VATARAKTA WITH SPECIAL REFERENCE TO GOUT

Chafle Shilpa¹, Kulkarni Savita², Kulkarni Eknath³, Kulkarni Rajan⁴

1. PG Scholar, Panchakarma Dept. A.S.S. Ayurved Mahavidyalaya, Nashik.

2. Asso. Prof. Panchakarma Dept. A.S.S. Ayurved Mahavidyalaya, Nashik.

3. HOD, Panchakarma Dept. A.S.S. Ayurved Mahavidyalaya, Nashik.

4. HOD and Prof. Kayachikitsa Dept. A.S.S. Ayurved Mahavidyalaya, Nashik.

ABSTRACT :

Vatarakta is common presentation, characterized by severe pain, tenderness, inflammation, burning sensation in affected joints. *Vatarakta* is a disease related with *Khavaigunya* found in *Raktavaha srotasa* which include vitiated *Vata* and *Rakta*. Small joints of feet and hands are mainly affected. The etiology and symptomatology of Gout is very much similar to that of *Vatarakta*. Gout (also known as podagra when it involves the joint at the base of the big toe) is usually characterized by recurrent attacks of acute inflammatory arthritis—a red, tender, hot, swollen joint. The joint at the base of the big toe is the most commonly affected (approximately 50% of cases). *Aacharya Charaka* has elaborated the importance of *basti chikitsa* in *vatarakta* as “*Na hi bastisamam kinchita vatarakta chikitsitam.*” In the present clinical study, efficacy of *Hapushadi Yapana basti* in *Vatarakta* with special reference to Gout is evaluated. The present modern established management includes use of various NSAIDs which become resistant over a short period of time. Though *basti* is a traditionally used therapy in *Vatarakta*, its efficacy is not yet evaluated with *Hapushadi Yapana*. Cost of the treatment modality is very much less as compared to other managements. Moreover there are no adverse effects of *basti chikitsa* when compared to present modern established conservative treatment. At the end of study it is found that *Hapushadi Yapana basti* is more effective than *Guduchi Taila Matra Basti* with respect to Shotha, Shoola, Kathinya and Sparshaasahatva. The values of Serum Uric acid levels were significantly reduced in Study as well as Control Group.

Keyword: *Vatarakta*, Gout, *Hapushadi Yapan Basti*, *Guduchi Taila Matra Basti*.

INTRODUCTION: As said, *Ayurveda* is science of life and it has described how to live a healthy life through *Dinacharya* and *Rutucharya*. But everything is not possible because of our modern life style. As a result of rapid modernization, consumption of baked food, half fried vegetables etc. causes impairment in digestion and metabolism of protein structures, making human being vulnerable to many life threatening disorders. Among these *Vatarakta* is common presentation which is characterized by severe pain, tenderness, inflammation, burning sensation in

affected joints. Ayurvedic texts provide a great insight in etiopathology, symptomatology and treatment of *Vatarakta*. The dietary habits like fast food, spicy, oily and heavy diet, *Rukshahara*, *Viruddhashan*, *Vishamashan* along with *Jalkrida*, *Jagaran*, *Divasvaap*, *Atyadhvagamana*, *Yanayana*, *Vegavrodh* have been described as ‘*Hetus*’¹(etiological factors) of *Vatarakta*. These mainly vitiate *Vata* and *Rakta*. The vitiated *Rakta* causes *Margavrodha* and the vitiated *Vata* in such condition creates inflammation, stiffness and pain in the small joints.

The etiology and symptomatology of Gout² is very much similar to that of Vatarakta. Gout is a pathological reaction of joints or particular tissues which results from deposition of monosodium urate monohydrate crystals in joints and tissue. Purine is an important byproduct of incomplete protein metabolism, leading into the excess of production of uric acid through their metabolic pathways. Ayurveda being a life science is more than capable of providing a safe and effective line of treatment for Vatarakta. The texts are rich with variety of formulations. Panchakarma is treatment modality used very extensively and effectively in Ayurveda. It plays an important role in Vatarakta. Acharya Charaka elaborates importance of Basti karma in Vatarakta. "Na hi Bastisamam kinchta Vatarakta chikitsitam"¹ Hapushadi Yapana Basti¹ is one of the treatments on Vatarakta explained by Acharya Charaka in siddhisthana.

AIM AND OBJECTIVES:

Aim: To study the efficacy of Hapushadi Yapana Basti in Vatarakta with special reference to Gout.

Objectives:

- 1) To reduce the sign and symptoms of Vatarakta such as Shoth, Shool, Daha, Toda, Kathinya, Sparshaasahatva, etc., over the affected joints.
- 2) To conduct a comparative study of Hapushadi Yapana Basti and Guduchi Tail Matra Basti¹ in Vatarakta.

MATERIALS AND METHODS:

MATERIALS:

- For study group - Hapushadi Yapana Basti
 1. Hapusha (*Juniperus communis*)=20gm
 2. Yava (*Hordeum vulgare*)=40gm
 3. Godugdha=200ml
 4. Goghrita=10gm
 5. Madhu=10gm
 6. Tila Taila=10ml

7. Saindhava=5gm 8. Jal=200ml(for single dose) Basti prepared as per 'Ksheerpaka Kalpana'³.

Note: Hapushadi Yapana Basti was prepared fresh daily for each patient.

Contents of Hapushadi Yapana Basti, Ghrita, Tila Taila, Saindhava, Madhu were taken from the same batch to maintain the quality.

- For control group – Guduchi Taila Matra Basti

16 liters of Guduchi Tail was prepared for 30 patients at a time with following ingredients with given quantity:

1. Guduchi (*Tinospora cordifolia*)=4kg,
2. Godugdha =16 liters,
3. Tila Taila=16 liters
4. Jala=64 liters Guduchi Taila prepared as per 'Snehapaka Kalpana'³

METHOD:

Selection of Patients: The patients who attended the O.P.D. and I.P.D. of Panchakarma and Kayachikitsa Department of our hospital, during the period of year 2014 and 2015. Among these, 60 patients who fulfilled the bellow mentioned criteria of inclusion were taken for the study.

Inclusion Criteria:

1. Age: 20-60years.
2. Sex-Both male and female.
3. Socio Economical status: All
4. Patients of vatarakta presenting features as per Ayurvedic text such as Shotha, Shula, Daha, Toda, Kathinya, Sparshaasahatva

Exclusion Criteria:

1. Age below 20 and above 60 years.
2. Chronic Tophaceous gout and secondary gout due to renal impairment.
3. Arthropathy other than Gout, Leprosy, SLE, Sarvanga Shotha, Koch's, Renal diseases.

4. Pregnancy and Lactating mother.

Investigations:

1. Serum Uric acid level.
2. Complete blood count.
3. Erythrocyte sedimentation rate.
4. R.A. test (SOS)

CLINICAL STUDY: Clinical study carried out on randomly selected 60 patients showing signs and symptoms of *Vatarakṭa* (Gout). They were randomly divided into two groups-Group A and Group B.

Group A: Randomly selected 30 patients were treated with '*Hapushadi Yapana Basti*'.

Kala- Morning ,*Matra-* 120ml,Regimen of *Basti-* 8 days.

Duration of Study- 28 days

Follow-up- D8, D14, D21, D28

Group B: Randomly selected 30 patients were treated with '*Guduchi Taila Matra Basti*'.

Kala- Morning ,*Matra-* 60ml , Regimen of *Basti-* Daily for 8 days.

Duration of Study- 28 days

Follow-up- D8, D14, D21, D28

CRITERIA OF ASSESSMENT:Subjective Parameters:

| Sr no | Sign & symptoms | Criteria | score |
|-------|--|---|-------|
| 1 | Swelling (<i>Shotha</i>) | Nil | 0 |
| | | Mild swelling involving only area over joint | 1 |
| | | Moderate swelling involving area over joint and causing disfigurement of joint or limb. | 2 |
| | | Severe swelling involving entire area over joint and surrounding tissue. | 3 |
| 2 | Pain (<i>Shoola, Toda</i>) | Nil | 0 |
| | | Pain felt only at time of movement | 1 |
| | | Persistent pain not affecting daily routine | 2 |
| | | Persistent pain sensation that affect daily routine | 3 |
| 3 | Discoloration of skin (<i>Shyava/ Tamra</i>) | Nil | 0 |
| | | Mild | 1 |
| | | Moderate | 2 |
| | | Severe | 3 |
| 4 | Stiffness (<i>Kathinya</i>) | Nil | 0 |
| | | Painful movement | 1 |
| | | Restricted movement | 2 |
| | | Total loss of movement | 3 |
| 5 | Tenderness (<i>Sparshaasahatva</i>) | Nil | 0 |
| | | Tenderness on pressure | 1 |
| | | Tenderness on touch | 2 |
| | | Patient will not allow the joint to be touched | 3 |
| 6 | <i>Daha</i> | Absent | 0 |
| | | Present | 1 |

Objective Parameters:

Serum Uric Acid:

| Sr. No. | Group A | | Group B | |
|---------|------------------|-----------------|------------------|-----------------|
| | Before Treatment | After Treatment | Before Treatment | After Treatment |
| 1 | 6.3 | 6.1 | 5.2 | 5.1 |
| 2 | 8.1 | 6 | 6 | 6.1 |
| 3 | 7.2 | 6.5 | 6.2 | 6 |
| 4 | 7.2 | 6.1 | 6.6 | 6.3 |
| 5 | 4.6 | 4.3 | 6.9 | 6.5 |
| 6 | 6.9 | 6.8 | 8.2 | 7.5 |
| 7 | 5.9 | 5.8 | 7.3 | 7 |
| 8 | 7 | 6 | 6.8 | 6.3 |
| 9 | 6.6 | 4.4 | 7.1 | 7.1 |
| 10 | 6.9 | 6.3 | 7.1 | 7 |
| 11 | 8 | 6.6 | 6.3 | 4.7 |
| 12 | 4.3 | 5.8 | 7.8 | 7.6 |
| 13 | 7.5 | 7.1 | 7.9 | 7.5 |
| 14 | 8.3 | 6.5 | 6.7 | 6.5 |
| 15 | 5.1 | 4.3 | 7.5 | 7.2 |
| 16 | 6.6 | 6.8 | 6.1 | 6.1 |
| 17 | 5.7 | 5.4 | 5.6 | 5.6 |
| 18 | 7.7 | 6.6 | 6.9 | 6.8 |
| 19 | 7 | 5 | 7.2 | 6 |
| 20 | 8.3 | 6.7 | 6.1 | 5.7 |
| 21 | 6.3 | 6.9 | 4.6 | 5 |
| 22 | 7.1 | 6.3 | 6.6 | 6 |
| 23 | 7.9 | 6.2 | 8 | 7.7 |
| 24 | 5.9 | 4.8 | 7.3 | 7 |
| 25 | 6.7 | 6.3 | 8.2 | 7.5 |
| 26 | 6.3 | 4.9 | 6.7 | 6.5 |
| 27 | 6.2 | 5.5 | 9.2 | 8.8 |
| 28 | 6.7 | 4.9 | 7.8 | 8.2 |
| 29 | 5.3 | 5 | 7 | 7 |
| 30 | 5.1 | 5 | 7.7 | 7.6 |

OBSERVATIONS AND RESULTS:

1) Swelling (Shotha):

| Days | χ^2 Cal. value | df | Table χ^2 value | probability | Result |
|------|---------------------|----|----------------------|-------------|-------------|
| D8 | 10.22 | 3 | 7.81 | < 0.05 | Significant |
| D14 | 13.942 | 2 | 5.99 | < 0.05 | Significant |
| D21 | 11.568 | 2 | 5.99 | < 0.05 | Significant |
| D28 | 7.17 | 1 | 3.84 | < 0.05 | Significant |

2) Pain (Shoola):

| Days | χ^2 Cal. value | df | Table χ^2 value | probability | Result |
|------|---------------------|----|----------------------|-------------|--------------------|
| D8 | 4.65 | 2 | 5.99 | > 0.05 | Not significant |
| D14 | 11.3 | 2 | 5.99 | < 0.05 | Significant |
| D21 | 21.84 | 2 | 5.99 | < 0.05 | Highly significant |
| D28 | 18.7 | 2 | 5.99 | < 0.05 | Highly significant |

3) Discolouration (Shyava/ Tamra)

| Days | χ^2 Cal. value | df | Table χ^2 value | probability | Result |
|------|---------------------|----|----------------------|-------------|-----------------|
| D8 | 5.856 | 3 | 7.815 | > 0.05 | Not significant |
| D14 | 2.362 | 2 | 5.99 | > 0.05 | Not significant |
| D21 | 7.052 | 2 | 5.99 | < 0.05 | Significant |
| D28 | 5.404 | 1 | 3.84 | < 0.05 | Significant |

4) Stiffness (Kathinya)

| Days | χ^2 Cal. value | df | Table χ^2 value | probability | Result |
|------|---------------------|----|----------------------|-------------|--------------------|
| D8 | 21.166 | 2 | 5.99 | < 0.05 | Highly Significant |
| D14 | 24.332 | 2 | 5.99 | < 0.05 | Highly Significant |
| D21 | 24.96 | 2 | 5.99 | < 0.05 | Highly Significant |
| D28 | 27.2 | 2 | 5.99 | < 0.05 | Highly Significant |

5) Tenderness (Sparshaasahatva)

| Days | χ^2 Cal. value | df | Table χ^2 value | probability | Result |
|------|---------------------|----|----------------------|-------------|--------------------|
| D8 | 11.58 | 2 | 5.99 | < 0.05 | Significant |
| D14 | 18.814 | 2 | 5.99 | < 0.05 | Highly Significant |
| D21 | 15.709 | 2 | 5.99 | < 0.05 | Highly Significant |
| D28 | 20.08 | 2 | 5.99 | < 0.05 | Highly Significant |

6) Daha:

| | Group A | Group B |
|--------------------------|-------------|-------------|
| Run value (r) | 11 | 12 |
| Positive value (n_1) | 17 | 14 |
| Negative value (n_0) | 13 | 16 |
| Lower critical value (a) | 10 | 10 |
| Upper critical value (b) | 22 | 22 |
| Result | A < r < b | A < r < b |
| | Significant | Significant |

Unpaired 't' test (Gr. A Vs Gr.B)

Paired't'test

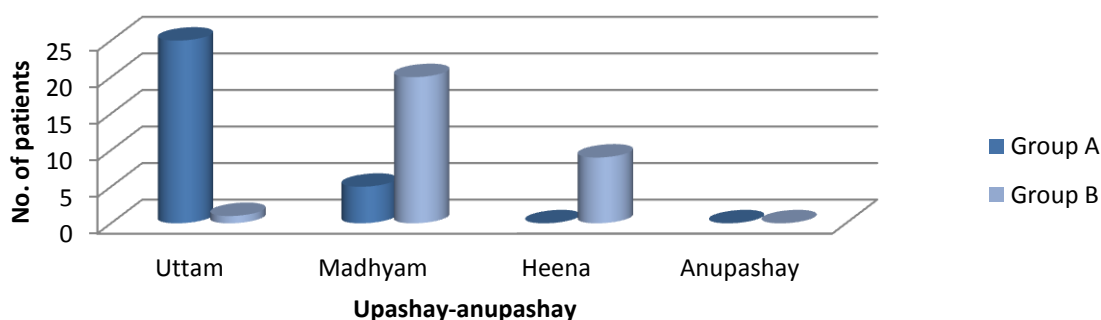
| Serum uric acid level | | |
|-----------------------|-------|---------|
| Group A | | Group B |
| Mean | 0.8 | 0.3 |
| SD | 0.754 | 0.4 |
| SE | 0.137 | 0.07 |
| t ₂₉ | 5.0 | 4.2 |
| t _{table} | 2.05 | 2.05 |
| P | <0.05 | <0.05 |

| Serum uric acid level | |
|-----------------------|-------|
| SD | 0.604 |
| SE | 0.156 |
| t ₅₈ | 3.205 |
| t _{table} | 2.02 |
| p | <0.05 |

Total Effect of Therapy

| Relief | Upashay-anupashay | Group A | % Relief in Gr. A | Group B | % Relief in Gr. B | Total |
|---------------|-------------------|-----------|-------------------|-----------|-------------------|-----------|
| 75% and above | Uttam | 25 | 83.33 | 1 | 3.33 | 26 |
| 50% to < 75% | Madhyam | 5 | 16.66 | 20 | 66.66 | 25 |
| 25% to < 50% | Heena | 0 | 00 | 9 | 30 | 9 |
| 0% to < 25% | Anupashay | 0 | 00 | 0 | 00 | 0 |
| | Total | 30 | | 30 | | 60 |

Distribution of patients according to total effect of therapy



DISCUSSION:All the patients of study group and control group showed improvement in signs and symptoms of Vatarakṭa. These were assessed by statistical methods applied on subjective criteria like swelling (*shotha*), pain (*shoola, toda*), discolouration of skin (*Araktata*), kathinya (*stiffness*), tenderness (*sparshashatva*) and *Daha* as well as on

objective criteria i.e. serum uric acid. There was slightly significant difference in Swelling (*Shotha*) at day 8 after completion of *Basti Karma*. But from day 14 there was more significant difference in experimental group. *Hapusha*⁴ has *Kapha Vata Shamaka* action by virtue of its *Katu-Tikta Rasa, Katu vipaka, Ushna Veerya* and *Guru, Tikshna guna*. It also possesses

anti-inflammatory and analgesic action. A dry 80% ethanolic extract of juniper reduced edema. *Yava*⁴ by its *Madhur* and *Kashaya Rasa*, *Katu Vipaka*, *Sheet Veerya* may have worked as a *Kapha and Pitta Shamak*. *Tila Taila* by its *Madhur*, *Kashaya*, *Tikta Rasa*, *Ushna Veerya* acts as *Kaphavata Shamaka*.

There was no significant difference observed in pain on day 8. But on day 14 the difference is significant and from day 21 it was highly significant in experimental group, suggesting the action of *Basti* acts as *Shoola Nashaka* with effect of *Hapusha* by its *Ushna Veerya* and *Guru Guna* may have shown *Vatashamaka* property and analgesic action. Ingredients of *Basti* are *Godugdha*, *Goghrita*, *Tila Taila*, *Saindhava* have *Snigdha Guna* which helps to pacify *Vata dosha*. There was no significant difference observed in discoloration of skin on day 8 and day 14. But on day 21 there was slightly significant difference in experimental group. *Hapusha* by its *Katu*, *Tikta Rasa*, *Katu Vipaka* acts as *Raktaprasadan* and *Raktadushtihara*. *Yava* has *Kashaya Rasa* and *Katu vipaka*, it shows *Raktaprasadana* property. There was highly significant difference in Stiffness (*Kathinya*) from day 8 more in the study group.

As *Basti* contains *Godugdha*, *Goghrita*, *Tila Taila* are *Vataghna* in nature. Due to their *Snigdha Guna* and *Madhur Vipaka*, they also improve the *Mamsa Dhatu* and *Snayubandha* at affected joint. *Hapusha* reduces pain and morning stiffness of arthritis patient. On day 8 there was significant difference observed in tenderness in experimental group. From day 14 highly significant difference was observed. Tenderness is observed due to

painful inflammatory condition of the affected joints, which is reduced due to anti-inflammatory, antiarthritis and analgesic effects of *Hapusha*. In this study there was significant result observed in *Daha* in both A and B group. *Basti* mostly contains drugs (*Godugdha*, *Goghrita*, *Tila Taila*, *Madhu*) having *Madhura Rasa*, *Madhura Vipaka*, *Snigdha* and *Pichhila Guna*, which helps to reduce *Daha* at affected joint.

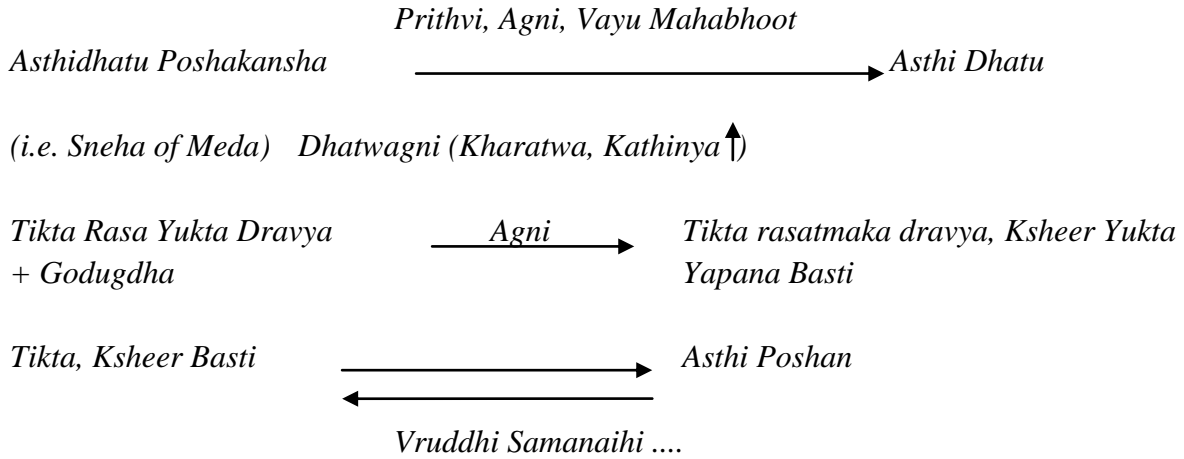
Serum Uric Acid Level: The observed 't' value for difference in Serum Uric Acid level on day 0 and day 28 is significant 3.20 ($p < 0.05$). It indicates that the values of Serum Uric acid levels were significantly reduced in Study as well as Control Group. Statistically *Hapushadi Yapana Basti* was more effective in lowering the Serum Uric acid level than *Guduchi Taila Matra Basti*.

Discussion regarding Total effect of Therapy:

Experimental Group: After studying all the data thoroughly it was observed that out of 30 patients in trial group 25 (83.33%) received *Uttam Upashaya* and 5 (16.66%) received *Madhyam Upashaya*.

Control Group: Where as in control group only 1 (3.33%) patient got *Uttam Upashaya*, 20 (66.66%) patients got *Madhyam Upashaya*, 9 (30%) patients received *Heena Upashaya* and 0% had *anupashaya*. As we have correlated *Vatarakta* to Gout i.e. mainly there is presence of *Vata Vriddhi* and *Rakta Dushti* and the disease is related with *Asthi Dahtu*. *Basti* is the main treatment of *Vata Dosha* and even *Asthi Dhatu*, hence chosen the treatment *Hapushadi Yapana Basti*.

The treatment for *Asthigata Roga* is “*Bastyah ksheersarpishah tiktakopahitanich*”⁵



Probable mode of action of Basti:

Acharya Parashara has opined that *Guda* (anus) is the principal route of the body and bears rich blood supply in it. If we administer the Basti in anus, it nourishes all the extremities and organs of body. Basti eliminates the vitiated doshas via rectal route. Medicines which are administered through rectal route, are readily absorbed in rectum and large intestine. The rectum has rich blood supply and lymph drainage. Hence the drug can traverse through the rectal mucosa like other lipid membranes. The portion which is absorbed from upper rectal mucosa is carried by the superior haemorrhoidal veins in the portal circulation where as the middle and inferior haemorrhoidal veins absorb from the lower rectal mucosa enters directly into systemic circulations. The rectum with its rich vascularity and venous plexus provides a good absorption surface and many soluble substances produce their effect more quickly without passing the liver where they may be destroyed. While describing mode of action of *Basti*, Acharya Charaka says that *Basti* retains in *Pakwashaya* and dwells *Doshas* from all over the body i.e. head to toe as the sun stands millions kilometers away from the

earth though; it evaporates the water by powerful sun rays¹. Further he explains the importance of *Basti* and says that *Basti* is the only therapy which pacifies the provoked *Vata Dosha* like cyclonic storm is sustained by the waves of the sea. *Hapusha* contains 80% ethanolic extract which acts as an anti-inflammatory, analgesic as well as anti-arthritic. This mode of action resembles to that of non steroidal anti-inflammatory drugs. It significantly reduces pain, morning stiffness & oedema. Thus it can be concluded that *Hapushadi Yapana Basti* implants anti-inflammatory as well as anti-arthritic effect.

CONCLUSION: From the clinical trials conducted for the study "To Study the efficacy of *Hapushadi Yapana Basti* in *Vatarakta* with special reference to Gout" following conclusions are drawn: On the basis of statistical tests of significance, *Hapushadi Yapana Basti* is more effective than *Guduchi Taila Matra Basti* in reducing swelling, pain, stiffness and tenderness of the affected joints in *Vatarakta*. Serum Uric acid levels were reduced significantly in both the groups; where *Hapushadi Yapana Basti* is more effective than *Guduchi Taila Matra*

Basti. Thus it can be concluded that *Hapushadi Yapana Basti* is more effective in the management of *Vatarakṭa*.

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Corresponding Author:

Dr. Shilpa Chafle
PG Scholar, Panchakarma Dept. A.S.S.
Ayurved Mahavidyalaya, Nashik, India.
Email: shilpa.chafle@gmail.com

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