

## CASE SERIES

### THE EFFECT OF KINKINI TAILA PICHU IN THE MANAGEMENT OF KARNASRAVA (CSOM) –A CASE SERIES

Rashmi S Jamadar<sup>1</sup>, Gururaj N<sup>2</sup>, Veerayya Hiremath<sup>3</sup>, Shashikala K<sup>4</sup>, Anita K<sup>2</sup>, Preethi<sup>5</sup>

<sup>1</sup>Postgraduate Scholar, <sup>2</sup> Associate Professors, <sup>3</sup>Professor and Head, <sup>4</sup>Professor, <sup>5</sup> Assistant professor, Department of Shalaky Tantra, Shree Jagadguru Gavisiddheshwara Ayurvedic Medical College (SJGAMC), Koppal-583 231, Karnataka, India

\*Corresponding author: email address: rashmijamadar1998@gmail.com

#### ABSTRACT

**Introduction:** The term *Karnasrava* is self-explanatory, which means *Srava* (discharge) from *Karna* (ear). It is a *Vata Pradhana Tridoshaja Sadhya Vyadhi*. This condition can be correlated to Chronic Suppurative Otitis Media (CSOM) were the part or whole of the middle ear cleft characterized by purulent ear discharge, swelling, discomfort and tympanic membrane perforation. **Objectives:** To see the effect of *Karna Pichu* with *Kinkini Taila* and *Karna Dhupana* with *Kinkini Varti* in *Karnasrava*. **Methodology:** For this study 10 patients were registered from OPD of *Shalaky Tantra*, SJGAMC Hospital, Koppal; who were clinically diagnosed patients of *Karnasrava/CSOM*. All patients were treated with *Kinkini Taila Karna Pichu* and *Kinkini Varti Karna Dhupana* and Oral administration of *Sarivadi Vati* (1 bd) for 7 days. **Result:** The highly significant results was seen in *Karna Shoola* (earache), *Karna Kandū* (Itching), *Karna Srava* (discharge) and no significant result was seen in the degree of *Badhirya* (hearing loss). **Discussion:** Among 10 patients 7 patients belong to rural area and 4 of them had chronicity more than 7-9 months because of their negligence the disease converts from acute to chronic condition. Complete healing of small sized tympanic membrane perforation was seen in 2 patients. *Karnashoola* (Otagia), *Karnasrava* (otorrhea) and *Kandū*(itching) shows 100% relief in symptoms were found to be highly significant and hearing loss 11.11% which is insignificant. **Conclusion:** *Karna Pichu* provides longer drug - tissue contact time, increased rate of absorption, sustained release of drug and thereby facilitating better healing. After treatment, the *Kinkini Taila* shows best results and is safe to use.

**Keywords:** Ayurveda, case series, CSOM, *Karna Srava*, *Kinkini Taila Pichu*,

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#### INTRODUCTION

*Karnasrava* is the disease entity characterized by discharge from the *Karna*, which occurs due to vitiation of all the three *Doshas* predominantly *Vata Dosha*. *Acharya Sushruta* in *Karnaroga Vigyaniya Adhyaya* described *Karnasrava* as a separate disease and it is also a synonym of many other diseases like *Putikarna* and *Karnapaka*<sup>1</sup>. *Acharya Charaka* mentioned *Karnasrava* as a symptom of four types of *Karnarogas* which occurs due to the vitiation of *doshas*<sup>2</sup> and had mentioned the treatment of *Karnasrava* should be on the line of management of *Vrana* (wound)<sup>3</sup>. *Astanga Sangraha* and *Astanga Hridaya* mentioned *Karnasrava* as a main symptom among all 5 types of *Karnashoola*<sup>4,5</sup>.

Chronic suppurative Otitis Media is a long-standing infection of the middle ear cleft characterized by the persistent ear discharge through perforated tympanic membrane. The global burden of CSOM varies between 1 and 46%. In India prevalence rate is higher in rural area (46/1000 persons) and lesser in

urban area (16/1000 persons) and is the leading cause of hearing impairment in rural population<sup>6</sup>. The incidence rate of CSOM is higher in developing countries because of poor socioeconomic standards, poor nutrition and lack of health education. It affects both sexes and all age groups<sup>7</sup>. As for etiological factors CSOM is caused by bacterial infection of middle ear which may sometimes have fungal growth also and the common pathogens causing discharge of middle ear are *Pseudomonas*, *Staphylococcus aureus*, *E. coli*, *Proteus*, *Klebseilla* and *Candida albicans*<sup>8</sup>.

The general line of treatment for *Karnasrava* includes *Shirovirechana*, *Dhupana*, *Karnapurana*, *Pramarjana*, *Dhavana*<sup>9</sup> etc. In CSOM includes Aural toileting, Antibiotics or steroid ear drops, systemic antibiotics and Treatment of contributory diseases are infection of tonsils, adenoids, nose and paranasal sinuses and allergy.

Topical antibiotic ear drops can make maceration of canal skin, local allergy, growth of

fungus or resistance of organisms. Some ear drops are potentially ototoxic<sup>10</sup>. The treatment of this particular disease has not given satisfactory results therefore many medications and surgeries are advised to relieve this condition. So, to overcome above problems and to find cheaper and other alternative formulation *Kinkini Taila* was selected as a local therapeutic procedure for *Pichu*. This is mainly indicated in *Putikarna, Karnasrava, Karnakandu, Karnanada, Karnashotha, Badhirya, Shiroroga, Netraroga, Manyasthamba and Galagraha*<sup>11</sup>.

### AIMS AND OBJECTIVES

To assess the efficacy of *Kinkini Taila Pichu* in the management of *Karnasrava* (CSOM)

### MATERIALS AND METHODS

#### Selection of patients

The patients fulfilling the inclusion criteria, attending the registered OPD of *Shalaky Tantra SJJGAMC Hospital, Koppal* selected irrespective of age, sex, religion, race, occupation etc.

#### Design of study

The study was conducted on 10 diagnosed patients of *Karnasrava*. Patients were selected from OPD of *Shalaky Tantra SJJGAMC Hospital, Koppal*. All the 10 patients completed the study.

#### Inclusion criteria

- Patient aged between 10 - 70 years (written informed consent will be taken from parents in the patient below 18 years) of both the genders.
- Clinically diagnosed cases of *Karnasrava*(CSOM).

#### Exclusion criteria

- Malignant otitis externa.
- Post operative cases of ear surgery.
- Structural ear anomalies which may difficult the evaluation of the therapeutic response.
- Uncontrolled diabetes mellitus and hypertension
- Any other Systemic infections.

- Concomitant medicines that may interfere with the study evaluations.

#### Assessment criteria

- Examination of ear was done with the help of palpation and otoscope
- Assessment will be made based on the subjective parameters before, during and after the treatment.
- Clinical findings before and after the treatment shall be observed and recorded in performa of the case sheet. The result obtained will be statistically analysed and compared.

#### Subjective parameters:

**Table 1: Itching - 5 D Pruritus scale <sup>12</sup>:**

Parameters	Grading	
1. Duration	A. Less than 6 hours / day	1
	B. 6 - 12 hours / day	2
	C. 12 - 18 hours / day	3
	D. 18 - 23 hours / day	4
	E. All day	5
2. Degree	A. Not present	1
	B. Mild	2
	C. Moderate	3
	D. Severe	4
	E. Unbearable	5
3. Direction	A. Completely resolved	1
	B. Much better, but still present	2
	C. Little bit better, but still present	3
	D. Unchanged	4
	E. Getting worse	5
4. Disability	A. Never affects sleep	1
	B. Occasionally delays falling asleep and never affects the activity	2
	C. Frequently delays falling asleep and rarely affects this activity	3
	D. Delays falling asleep / occasionally wakes up me at night and frequently affects this activity	4
	E. Delays falling asleep / frequently wakes up me at night and always affects this activity	5
5. Distribution (Ear)	A. Absent	1
	B. Near to tympanic membrane	2
	C. In the ear canal	3
	D. External ear	4
	E. Around the ear	5

#### Assessment:

< 8	No pruritus	0
9-11	Mild pruritus	1
12- 17	Moderate pruritus	2
18 - 21	Severe pruritus	3
> 21	Very severe pruritus	4

**Table 2: Otagia<sup>13</sup>:**

No earache	0
Not continuous	1
Continuous but not incapacitating normal activity	2
Continuous throughout and incapacitating normal activity	3

**Table 3 :Otorrhea<sup>14</sup>:**

Absent	0
Mild - scanty secretion near to the tympanic membrane	1
Moderate - secretion irritating in the ear canal	2
Severe - secretion coming out of ear canal	3

**Table 4 :Impaired hearing<sup>15</sup>:**

Absent	0
Unable to hear the whispering voice	1
Unable to hear normal voice	2
Unable to hear a loud voice	3

**Table 5 :Fungal mass<sup>16</sup>:**

1. Absent	0
2. Mycotic hyphae on one side of the EAC	1
3. Mycotic hyphae on two or more sides of the EAC and the tympanic membrane	2
4. Diffuse mycotic hyphae involving the EAC and the middle ear	3

#### Interventional phase

**Table 6: Treatment Protocol**

<i>Karna Pramarijana</i>	07 days	
<i>Karna Dhupana</i>	<i>Kinkini Varti</i> for 7 days	
<i>Karna Pichu</i>	<i>Kinkini Taila</i> for 7 days	
Dosage form	<i>Taila Pichu</i>	
Size	Paediatric	~1.5 cm x 0.9 cm
	Adult	~2 cm x 1.2 cm
Dose	Paediatric	12 drops BD
	Adult	24 drops BD

Time	5 hours
Mode	Topical
Internal medicine	<i>Sarivadi Vati</i> 1 BD for 7 days
Total study duration	7 days

#### Assessment phase

##### Criteria for assessment –

**Table No.7:** Overall effect of Kinkini Taila Pichu, Kinkini Varti Dhupana and Sarivadi Vati:

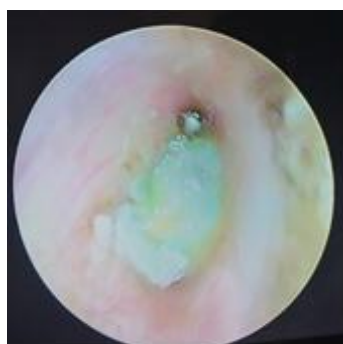
Cured	80 - 100 % relief in symptoms
Marked improvement	60 - 79% relief in symptoms
Moderate improvement	40 - 59% relief in symptoms
Mild improvement	20 - 39% relief in symptoms
No improvement	Less than or equal to 19% relief in symptoms

#### Follow- up of the treatment

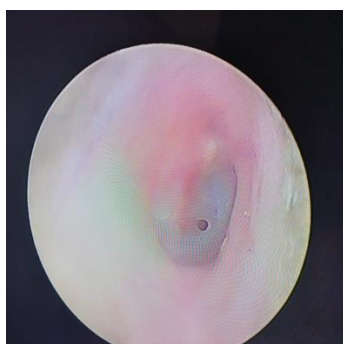
Patients were asked to attend the O.P.D. 1 week after the completion of therapy for the follow up.

#### Statistical test

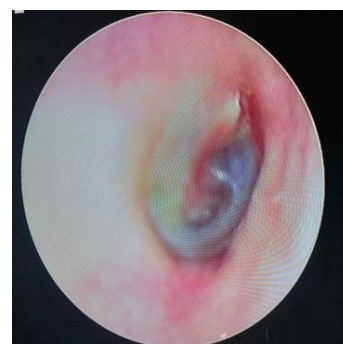
The data obtained on the basis of observations was subjected to statistical analysis in terms of mean, standard deviation (SD), standard error (SE) by applying wilcoxon signed-rank test. The results were interpreted at the level of  $p > 0.05$  as Insignificant,  $p = 0.01- 0.05$  as Significant,  $p$  as  $0.001 - 0.01 -$  Very significant,  $p < 0.001$  as Highly significant



**a**



**b**



**c**

**Figures: Appearance of EAC & Tympanic Membrane on endo-otoscopic examination**  
**a. on Day 1, b. on Day 7 and c. on Day 14**

**Table 8 : Attributes (Rasa, Guna, Veerya & Vipaka) of Drugs**

<i>Dravyas</i>	<i>Rasa</i>	<i>Guna</i>	<i>Veerya</i>	<i>Vipaka</i>
1. Kinkini	'Madhura', 'Amla'	'Laghu'	'Sheeta'	'Madhura'
2. Sahachara	'Tikta', 'Madhura'	'Laghu'	'Ushna'	'Katu'
3. Dhatura	'Tikta', 'katu'	'Laghu', 'Rooksha'	'Ushna'	'Katu'
4. Nirgundi	'Katu', 'Tikta'	'Laghu'	'Ushna'	'Katu'
5. Yastimadhu	'Madhura'	'Guru', 'Snigdha'	'Sheeta'	'Madhura'
6. Pippali	'Katu'	'Laghu', 'Tikshna'	'Ushna'	'Madhura'
7. Musta	'Tikta', 'Katu'	'Laghu', 'Rooksha'	'Sheeta'	'Katu'
8. Gandhaka	'Kashaya', 'Madhura'	'Sara', 'Snigdha'	'Ushna'	'Katu'
9. Kusta	'Tikta', 'Katu'	'Laghu'	'Ushna'	'Madhura'
10. Duralabha	'Madhura', 'Kashaya', 'Katu'	'Laghu', 'Snigdha'	'Sheeta'	'Madhura'
11. Meshashringi	'Kashaya', 'Tikta'	'Laghu', 'Rooksha'	'Ushna'	'Katu'
12. Raja Dhatura	'Tikta', 'Katu'	'Laghu', 'Rooksha'	'Ushna'	'Katu'
13. Rasna	'Tikta'	'Guru'	'Ushna'	'Katu'
14. Madhurika	'Madhura', 'kashaya'	'Snigdha', 'Guru'	'Sheeta'	'Madhura'
15. Jhinti moola	'Katu'	'Guru', 'Rooksha', 'Tikshna'	'Ushna'	'Madhura'
16. Langali moola	'Katu', 'Tikta'	'Laghu', 'Tikshna'	'Ushna'	'Katu'
17. Madhuka	'Madhura', 'Kashaya'	'Guru, Snigdha'	'Sheeta'	'Madhura'
18. Manjista	'Tikta', 'Kashaya', 'Madhura'	'Guru, Rooksha'	'Ushna'	'Katu'
19. Shigru	'Katu', 'Tikta'	'Laghu', 'Rooksha', 'Tikshna'	'Ushna'	'Katu'
20. Vatsanabha	'Madhura', 'Katu', 'Tikta', 'Kashaya'	'Snigdha'	'Ushna'	'Katu'
21. Sarshapa taila	'Katu'	'Guru', 'Rooksha', 'Tikshna'	'Ushna'	'Madhura'

**Table 9: Attributes (Prabhava & Doshagnata) of Drugs**

<i>Dravyas</i>	<i>Prabhava</i>	<i>Doshagnata</i>
1. Kinkini	'Arsha', 'Kamala'	'Vata' – 'Kapha'
2. Sahachara	'Kusta', 'Kandu', 'Visha', 'Shopha'	'Kapha' – 'Vata'
3. Dhatura	'Kandu', 'Krimi', 'Visha', 'Kusta'	'Vata' – 'Kapha'
4. Nirgundi	'Kandu', 'Dusta vrana', 'Shoola', 'Shotha'	'Vata' – 'Kapha'
5. Yastimadhu	'Shotha', 'Visha'	'Pitta' – 'Vata'
6. Pippali	'Rasyana', 'Kusta'	'Vata' – 'Kapha'
7. Musta	'Kandu', 'Kusta', 'Krimi'	'Kapha' – 'Rakta'
8. Gandhaka	'Kandu', 'Kusta', 'Krimi'	'Kapha' – 'Vata'
9. Kusta	'Kusta', 'Visarpa'	'Vata'
10. Duralabha	'Kusta', 'Meha'	'Vata' – 'Pitta'
11. Meshashringi	'Krimi', 'Daha', 'Vrana shopha'	'Kapha' – 'Vata'
12. Raja Dhatura	'Kandu', 'Krimi', 'Visha', 'Kusta'	'Vata' – 'Kapha'
13. Rasna	'Shotha', 'Visha', 'Shoola'	'Kapha' – 'Vata'
14. Madhurika	'Jantudosh', 'Daha'	'Vata' – 'Pitta'
15. Jhinti moola	'Twak vikar'	'Kapha' – 'Pitta'
16. Langali moola	'Krimi', 'Kusta', 'Shopha'	'Kapha' – 'Vata'
17. Madhuka	'Daha', 'Jantu vikara'	'Vata' – 'Pitta'
18. Manjista	'Twak vikara'	'Kapha' – 'Pitta'
19. Shigru	'Krimi', 'Shoola', 'Gulma'	'Kapha' – 'Vata'
20. Vatsanabha	'Karna shotha', 'Karna shoola'	'Tridosha'
21. Sarshapa taila	'Visha', 'Daha', 'Vidradi'	'Kapha' – 'Vata'

**Table 10 : Result of Therapy of 10 patients on Subjective Parameters (Wilcoxon Signed Rank test)**

Parameter	MEAN		% of reduction (pre-post/pre *100)	Mean +/- SD	SE	Z – value	p- value	Remarks
	BT	AT						
1. Otorrhea	1.90	0.00	100 %	1.90 +/- 0.738	0.233	-2.850b	0.004	HS
2. Otalgia	1.30	0.00	100 %	1.300 +/-0.675	0.213	-2.739b	0.006	HS
3. Itching	0.90	0.10	88.88 %	0.800+/- 0.632	0.200	-2.530b	0.011	S
4. Fungal mass	1.20	0.00	100 %	1.200 +/-0.789	0.249	-2.585b	0.010	S
5. Impaired Hearing	0.90	0.80	11.11%	0.10 +/-0.316	0.100	-1.000b	0.317	NS

## RESULTS

Out of 10 registered patients showed (100%) relief in *Karnashoola* (otalgia) followed by *Karnasrava* (otorrhea) (100%), *Kandu* (itching) (100%), *Karna Kandu* (Fungal growth) (88.88%) and *Badhirya* (hearing loss) (11.11%). Statistically all the results were found highly significant at the level of ( $P < 0.001$ ) except *Badhirya* (hearing loss) ( $P < 0.317$ ) which is insignificant.

## DISCUSSION

Among 10 patients 7 patients belong to rural area and people belongs to this area were neglected the early disease condition. Inadequate or improper treatment of ASOM and infections from nose, nasopharynx and oropharynx converts the disease from acute to chronic condition. It is also the single most cause of hearing impairment in rural population. According to the observation a small sized tympanic membrane perforation was seen in 2 patients and complete healing of perforation was seen within the period of 2 weeks. Recurrence of *Karnasrava* (otorrhea) and *Karnakandu* (fungal growth) was seen in one patient after 7 days of treatment. Observation signifies that *Vata - Kapha Prakruti* patients are more prone to get this disease as this is *Vata Pradhana Tridoshaja Vyadhi*. Majority of the patients had chronicity more than 7-9 months, this shows the lack of awareness and negligence towards their health. Study shows that the *Kinkini Taila* was not effective in the management of *Badhirya* (hearing loss).

Before performing the *Pichu Karna Pramajana*<sup>17</sup> of affected ear was done with cotton tipped Jonson horn probe for 7 days. *Karna Pramajana* is a prime treatment modality in *Karnasrava* helpful in relieving all the discharge and debris from the ear.

After *Karna Pramajana*, *Karna Dhupana* was done with *Kinkini Varti* about 5 minutes for 7 days. *Karna Dhupana*<sup>18</sup> gives the effect of *Sthanika Swedana*

which dries up the ear canal by making unfavourable condition for the growth of micro-organisms.

### Probable Mode of action of *Kinkini Taila Pichu*:

- The mode of action of *Kinkini Taila* can be understood on the basis of properties of the drugs<sup>19</sup>.
- *Madhura Rasa* induces *Indriya Prasadana*, *Sandhana* and *Vata Shamana* helps in healing of tympanic membrane.
- With the properties of *Katu* and *Tikta Rasa*, it will encounter *Vata* and *Kapha Dosha*. With *Kandughna*, *Kleda Upashoshana* and *Kapha Puyashoshana* properties it will help to prevent the discharge from ear, removes debris, fungal mass and reduces itching.
- *Kashaya Rasa* having *Sthambana*, *Sandhana*, *Kaphaghna* and *Kleda Shoshana* properties which will prevent the further secretions from the ear, helps in healing of tympanic membrane perforation and removing the debris.
- *Shoolaghna* and *Shothaghna* properties of *Dravyas* helps to inhibits the pain and reduces inflammation which occurs while cleaning the ear canal and removing the fungal mass.
- *Rooksha Guna* mainly does the *Shoshana Karma* helps in absorption of discharge in the ear canal which ultimately helps in eliminating the vitiated *Kapha Dosha*.
- *Lekhana* property of *Laghu Guna* helps in healing of wounds and elimination of *Kapha Dosha*.
- *Tikshna Guna* is *Shigrakari* which starts the action very quickly and helps in pacification of *Vata* and *Kapha Doshas*.
- *Ushna Veerya* will encounter *Vata Dosha* and normalize the *Gati* of *Vata Dosha*.
- *Sthambana* property of *Sheeta Veerya* will helps to prevent the secretion in ear.
- Local action of *Kinkini Taila Pichu* is based in cellular absorption of medicine as the *Pichu*

provides sustained release of drug spreads the medicine across the ear canal. *Pichu* also absorbs the *Srava* from the ear which promotes faster healing.

#### **Probable Mode of action of Sarivadi Vati<sup>20</sup>:**

- *Kapha - Vataghna* property of *Sariva*, *Twak*, *Ela*, *Patra*, *Nilotpala*, *Haritaki*, *Bhringaraja*, *Yava*, *Gunja*, *Loha Bhasma* and *Abhraka Bhasma* helps in preventing the discharge and clearance of middle ear infections. *Vata - Pitta* property of *Madhuka*, *Kusta* helps to eliminate the vitiated *Kapha Dosha* and *Vibhitaki*, *Amalaki*, *Kakamachi* and *Priyangu* does *Tridosha Shamana*.
- *Sheeta Veerya* of *Sariva*, *Madhuka*, *Ela*, *Nilotpala*, *Devapushpa*, *Amalaki*, *Arjuna*, *Yava* and *Priyangu* does *Pitta Shamana Karma* and facilitates wound healing. *Kusta*, *Twak*, *Nagakeshara*, *Patra*, *Haritaki*, *Bhringaraja*, *Gunja*, *Loha Bhasma* and *Abhraka Bhasma* possess *Ushna Veerya* thus helps in relieving *Vata* and *Kapha Dosha*.
- *Rooksha Guna* of *Kusta*, *Twak*, *Nagakeshara*, *Ela*, *Patra*, *Haritaki*, *Vibhitaki*, *Bhringaraja*, *Arjuna*, *Gunja*, *Priyangu*, *Loha Bhasma* and *Abhraka Bhasma* dries up the discharge in the middle ear and keeps the ear canal dry.
- Almost all the *Dravyas* present in the *Sarivadi Vati* have Anti-inflammatory, Anti-fungal and Anti-microbial activity. Thus relieve *Karnasrava*.

#### **CONCLUSION**

- On the basis of clinical features Chronic Suppurative Otitis Media (CSOM) can be correlated with *Karnasrava* which is *Vata Pradhana Tridoshaja Vyadhi*. *Karna Pichu* is very effective local procedure in *Karnarogas* because of its longer drug-tissue contact time, increased rate of absorption, sustained release

of drug thereby facilitating good results in the management of *Karnasrava*.

- Sufficient amount (approximately 12 drops in paediatrics and 24 drops in adults) of *Kinkini Taila Pichu* for the duration of 7 days with combination of *Karna Dhupana* and *Sarivadi Vati* is sufficient for the treatment of *Karnasrava* (CSOM), provided *Pathyapathya* should be followed.
- Antibiotic resistance is considered as the growing global problem listed among major threats to human health and In *Ayurveda* many treatment approaches, procedures and formulations are mentioned. *Kinkini Taila* is one of the formulations mentioned for *Karnarogas* and it is proved to be effective in *Karnasrava*, *Karna Kandu* and *Karna Shoola* has shown in statistics and no side effects seen in registered patients during trial. Thus, it can be helpful in preventing the necessity of different surgical procedures.
- The trial was done with limited sample size so further revalidation and long-term treatment is needed to see the effects of *Kinkini Taila* in the management of *Badhirya* (hearing loss).

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