

CLINICAL STUDY OF YAVAKSHARADI VATI AND PANCHVALKAL KWATH IN THE MANAGEMENT OF TUNDIKERI W.S.R. TO TONSILLITIS

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ABSTRACT

Tundikeri, the disease of *talv* or *kanth*, one of the *ayatanas* of *mukha*. *Tundikeri* can be correlated with tonsillitis as both the terminologies have similar features. Although no specific preparation for *tundikeri* is given and surgical treatment is described for the disease, but many formulations for *mukh rogas* are effective in *tundikeri*. This research trial is to know the efficacy of *yavakasharadi vati* and *panchvalkal kwath* in tonsil healing. *Yavakasharadi vati* 500 mg tid with honey and *Panchvalkal kwath* 50 ml BD for gargles has been selected. These drugs mentioned in *Chakradutta*, *Bhaisajyaratnawali*. Clinical study was done in single group with 20 patients for 15 days. Result was 20 % markedly improved and 80 % moderately improved. No untoward effect of drug was seen during the study period.

Keywords: *Tundikeri*, *yavakasharadi vati*, *panchvalkal kwath*

INTRODUCTION

“Ayurveda”, the science of life, is the oldest system of medicine which is sustaining till today in our Indian culture. Though some scholars recommend Ayurveda as an *Upaveda* of either *Rigveda* or *Atharvaveda*¹, but truly speaking, it is an independent science running parallel to the stream culture, that is why Maharishi Kashyap has rightly mentioned Ay-

urveda as the ‘**Fifth Veda**’ superior to all the other Vedas²

Tundikeri is commonly encountered nowadays due to the dietary habits of taking spicy food cold beverages and cold climate.³ Lower socio-economic group people are particularly prone as the immunity status is low in them.⁴ These factors coupled together result in recur-

rent episodes of disease. *Tundikeri* not only cripples children from majority of their enjoyable and learning movement but also makes adults to feel uneasy, restless and even bedridden, if complication occurs.⁵

In modern science, the disease *Tundikeri* can be correlated with tonsillitis as both the terminologies have similar features.^{6,7,8}

Antibiotics are the main stay in treatment of tonsillitis as far as the allopathic system of medicine is concerned. They can give temporary relief to the patient but cannot check the recurrence of the disease. Repeated administration of antibiotics may lead to many side effects in the patients. If there are indications that the patient might have to undergo tonsillectomy also with the antecedent rise of post operative bleeding and being first barrier to pathogens and site of antibody production, then their removal put a straight forward attack on our respiratory and gastrointestinal tracks and further more surgical procedure has its own complication also.

In Ayurveda, *Tundikeri* has been described under the *Mukha roga*.⁹ Acharya Charaka has classified the disease of *Mukha* on the basis of predominance of *Doshas*.¹⁰ Acharya Sushruta has enumerated it under *Talu gat roga*¹¹ and Acharya Vagbhatta has kept it under *Kantha gat roga*.¹²

Acharya Charaka has mentioned medicinal treatment of *Mukha roga*.¹³ Acharya Sushruta has put forward the *chikitsa* of this particular disease as per the lines of the disease '*Gala shundika*' followed by local application of drugs having properties of *Lekhana*, *Shothahara*, *Sandhaniya*, *Ropana*, *Rakta stambana* and *Vedana Sthapana*.¹⁴ He has also enumerated *Tundikeri* under classification of *Bhedyaroga* in Sutra sthana.¹⁵

Similarly, references are available regarding this disease in a more elaborated manner in *Ashtangahridya*; particularly its site of origin and another is of the opinion that the disease *Tundikeri* occurs at the site of *Hanusandhi-ashrit Kantha Pradesh*.¹⁶ Acharya Vagbhatta has also quoted the medical management for treating this disease.¹⁷ All other Acharyas have written the same line of treatment. So, except surgery no specific formulation of drug has been mentioned. Many formulation or drugs have been written for *Mukha roga* in the various texts books.

But as yet no such standard line of management could be made which can lessen the agony felt by the patients of *Tundikeri*. Currently in the modern era, new avenues are being explored for treating the disease, yet the disease has not been dominated. Taking the above mentioned facts in mind and to bring out patient from uneasiness, frustration, pain and productive for the society, a sincere effort has been made in the present study entitled "**Clinical study of Yavaksharadi vati^{18,19} and Panchvalkal Kwath^{20,21} in the Management of Tundikeri w.s.r. to "Tonsillitis"**".

To find out the best available in Ayurvedic texts, the critical review of Ayurvedic literature was done and among many formulations, two formulations were selected. One of them was *Yavaksharadivati* (B.R. Mu. 61/68; C.D) and the other one *Panchvalkal Kwath* (B.R. Mu. 61/78; C.D.), which had been made in the form of the (Yavakut). These formulations have been mentioned in almost all the Ayurvedic texts. So, to know the effectiveness of these drugs over *Tundikeri*, these two yoga had been selected for the present trial. Drugs in the formulation have properties like *Raktshodhana*, *Vednahara*, *Ojvara*, *Vishhara*,

Jvarhara, Sothahara, Lekhana etc. with the dosha karma of *Pitta kaphahara* which could be very beneficial in the *Kapha rakta* dominating disease.

Aims and Objective -

- ✿ To try to find the co-relation of *Tundikeri* with Tonsillitis.
- ✿ To study the efficacy of combination of *Yavaksharadi vati* and *Panchvalkal kwath* in context of *Tundikeri* (tonsillitis).
- ✿ To avoid its complication sequel and study of side effect/ toxicity of the drug, if any.

Selection of Disease -

Following criteria's were taken into mind while selecting the disease.

1. Availability of patients in good number.
2. Recurrence of the disease is very often and no antibiotics are available which totally root out the disease. Surgery is also life threatening, more so refusal from the patient's side for it.

Materials and Methods -

Plan of study

To meet the objective of present research work, the study was planned under two heading as.

Clinical study

Clinical study has been carried out in single trial group TG-I. Twenty patients were registered from E.N.T, O.P.D., R.G.G.P.G.A. Hospital and all have completed the trial. Complete description regarding the details of each research case was recorded in the proforma.

Criteria of selection of Patient-

Patients above age group of 5 years suffering from features described in *Tundikeri* disease, in Ayurvedic texts and in Tonsillitis in modern texts, were selected for the trial without any complications irrespective of sex, caste etc.

Exclusion Criteria -

- Patient with complication of Tonsillitis like peritonsillar abscess and parapharyngeal abscess etc.
- Malignancy, syphilis or TB presenting as tonsillar disease, diabetes mellitus or hypertension.
- Presence of other somatic or mental disorders requiring treatment.
- Immuno-compromised patients.
- Patients not willing to be registered for the trial.

Method of study

Single Trial Group -

In this group, *Yavaksharadi vati* orally and *Panchvalkal kwath* for *kawal* were taken and 20 patients were treated with these drugs.

Mode of Administration and Dose of Trial Drugs

Single Trial Group -

Yavaksharadi vati orally 500mg tid with honey and *panchvalkal kwath* for *kawal* 50 ml bid.

Duration of time -15 days.

Follow up-After completion of trial every week for 4 weeks.

Criteria of Assessment of Results

1. Subjective
2. Objective

Subjective:

Grading and scoring system was adopted for assessing each sign and symptom before the commencement of trial and after completion of trial. The overall score of each sign and symptom was recorded as:-

Absence of sign or symptom - 0

Presence of a sign or symptom in mild degree - 1

Presence of a sign or symptom in moderate degree - 2
 Presence of a sign or symptom in severe degree - 3

In the present research work following sign/symptoms were recorded and scoring was done as given below in the table:

Table 1: Grading

Signs and Symptoms	0	1	2	3
Enlarged tonsil	Tonsils are located within the tonsillar fossa	Tonsils hypertrophy till the brim of the tonsillar fossa	Tonsil hypertrophy extends beyond the pillars but not touching each other	Tonsils are in contact with each other (kissing tonsils)
Sore throat	No pain in throat	Pain not continuous	Continuous but not incapacitating normal routine activity.	Continuous and incapacitating normal routine activity.
Odynophagia	No pain during deglutition	Not continuous pain during deglutition	Continuous pain during deglutition	Not able to deglutition
Dysphagia	Able to eat regular diet	Able to eat solid diet	Able to eat liquid diet	Not able to eat & drink
Congestion over tonsils and pillar	No congestion	Thread like enlarged vein	Thorough of congestion over tonsils	Thorough of congestion over tonsil and pillars
Congestion over uvula and soft palate	No congestion	Thread like enlarged vein	Thorough of congestion over uvula only	Thorough of congestion over uvula and soft palate
Earache	No earache	Not continuous	Continuous but not incapacitating normal routine activity.	Continuous and incapacitating normal routine activity.
Cough	Absent	Less oftenly	Present occasionally like during eating or Speaking	Usually all time
Fever	Absent	99-100 ⁰ F	101-102 ⁰ F	103- 104 ⁰ F
Debris over Crypts	0	1 – 10	11 – 20	21 – 30
Jugulodigastric lymphadenopathy	No palpation of lymph nodes	Deep palpation of lymph nodes	Superficial palpation of lymph nodes	Visible lymph nodes
Halitosis	Absent	Halitosis from 1-5 cm	Halitosis from 5-50 cm	Halitosis form 50-75 cm
Change in voice	No change	Patient himself know change the voice	Patient and other person know change the voice	No phonation

Statistical Analysis -

The information gathered regarding demographic data was given in percentage. The scoring of criteria of assessment was analysed statistically of B.T. (Before Treatment),

A.T.(After Treatment), X (BT-AT), S.D. (Standard Deviation) $SD = \frac{\sum (x-x)^2}{n}$ and S.E.(Standard Error) SD. Paired ‘t’ test was carried out at level of $p < 0.05$ and $p < 0.001$.

Overall results were adjudged in terms of percentage relief obtained in signs/ symptoms.

- Cured** -100% relief
- Markedly improved** ->75% relief
- Moderately Improved**- $\geq 50\% < 75\%$ relief
- Improved** - $\geq 25\% < 50\%$ relief
- Unimproved** -<25% relief

Objective Criteria -

a) Haematological Examination

- Hb%
- T.L.C.
- D.L.C.

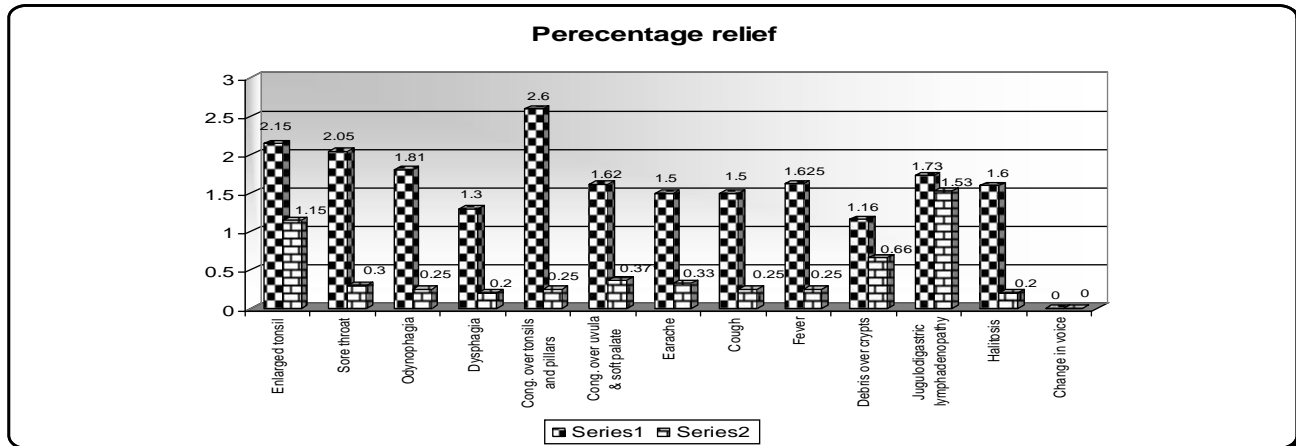
- E.S.R.
- B. Sugar (Fasting)
- b) Urine Examination.

Effect of therapy in single group –

The efficacy of the therapy i.e. *Yavaksharadi vati* and *panchvalkal kwath* in single group with 20 patients was adjusted on varied parameters and results was derived after execution of statistical methodology. The effect of therapy on criteria assessed has been presented here as under:

Table 2: Effect of therapy in single group

Signs and Symptoms	N	Mean		X (d) BT-AT	% age relief	SD±	SE±	't'	P
		BT	AT						
Enlarged tonsil	20	2.15	1.15	1	46.51	0.51	0.11	4.36	<0.001
Sore throat	20	2.05	0.3	1.75	85.36	0.55	0.12	14.22	<0.001
Odynophagia	16	1.81	0.25	1.56	86.16	0.51	0.12	12.19	<0.001
Dysphagia	10	1.3	0.2	1.1	84.61	0.73	0.23	4.71	<0.05
Congestion over tonsils and pillars	20	2.6	0.25	2.35	90.38	0.48	0.10	21.47	<0.001
Congestion over uvula and soft palate	8	1.62	0.371	1.25	77.16	0.46	0.16	7.63	<0.001
Earache	6	1.5	0.33	1.17	78	0.98	0.40	2.90	<0.05
Cough	4	1.5	0.25	1.25	83.33	0.95	0.47	2.61	>0.05
Fever	8	1.625	0.25	1.37	84.30	0.51	0.18	7.50	<0.001
Debris over tonsils crypts	6	1.16	0.66	0.5	43.10	0.54	0.22	2.23	>0.05
Jugulodigastric lymphadenopathy	15	1.73	1.53	0.2	11.56	0.41	0.10	1.87	>0.05
Halitosis	5	1.6	0.2	1.4	87.5	0.54	0.24	5.71	<0.05
Change in voice	0	0	0	0	0	0	0	0	0



1. Tonsil enlargement -

The initial mean score of enlarged tonsil in 20 patients was 2.15 which was reduced to 1.15 after the treatment. The percentage of relief was 46.51% which is significant statistically at the level of $p < 0.001$ ($t = 4.366$).

2. Sore throat-

The initial mean score of sore throat in 20 patients was 2.05 which was reduced to 0.3 after the treatment. The percentage of relief was 85.36% which is significant statistically at the level of $p < 0.001$ ($t = 14.22$).

3. Odynophagia -

The initial mean score in 16 patients was 1.81 before the treatment which was reduced to 0.25 after the treatment. The percentage of relief was 86.16% which is significant statistically at the level of $p < 0.001$ ($t = 12.199$).

4. Dysphagia-

The mean score in 10 patients was 1.3 before the treatment which was reduced to 0.2 after the treatment. The percentage of relief was 84.61% which is significant statistically at the level of $p < 0.05$ ($t = 4.71$).

5. Congestion in tonsils and pillars -

The mean score in 20 patients was 2.6 before the treatment which was reduced to 0.25 after the treatment. The percentage of relief was

90.38% which is significant statistically at the level of $p < 0.001$ ($t = 21.47$).

6. Congestion in uvula and soft palates -

The mean score in 8 patients was 1.62 before treatment which was reduced to 0.371 after the treatment. The percentage of relief was 77.16% which is significant statistically at the level of $p < 0.001$ ($t = 7.638$).

7. Earache -

The mean score in 6 patients was 1.5 before the treatment which was reduced to 0.33 after the treatment with percentage relief of 78%. This is significant statistically at the level of $p < 0.05$ ($t = 2.907$).

8. Cough -

The mean score in 4 patients was 1.5 before treatment which was reduced to 0.25 after the treatment. The percentage of relief was 83.33% which is non significant statistically at the level of $p > 0.05$ ($t = 2.61$).

9. Fever -

The means score in 8 patients was 1.625 before treatment which was reduced to 0.25 after the treatment. The percentage of relief was 84.30% which is significant statistically at the level of $p < 0.001$ ($t = 7.50$).

10. Debris over tonsils crypts -

The mean score in 6 patients was 1.16 before treatment which was reduced to 0.66 after the treatment. The percentage of relief was 43.10% which is non significant statistically at the level of $p > 0.05$ ($t = 2.23$).

11. Jugulodigastric lymphadenopathy -

The mean score in 15 patients was 1.73 before the treatment which was reduced to 1.53 after the treatment with 11.53 % relief which is non significant statistically at the level of $p > 0.05$ ($t = 1.87$).

12. Halitosis -

The mean score in 5 patients was 1.6 before the treatment which was reduced to 0.2 after the treatment. The percentage relief was 87.5% which is significant statistically at the level of $p < 0.05$ ($t = 5.71$).

Change of voice was taken in the criteria of assessment, but was not found in any of the patient.

Table 3- Effect of combination therapy of Yavaksharadi vati and panchvalkal kwath on haematological finding in single group.

	N	Mean score		X(d) ±	% age improvement	SD ±	SE±	't'	P
		BT	AT						
Hb%	20	11.0	11.42	0.42	3.81	0.39	0.087	4.83	<0.001
TLC	20	8045	7985	60	0.74	142.90	31.95	1.88	>0.05
ESR	20	15.1	8.8	6.3	41.72	1.87	0.42	15.09	<0.001

In single group, combined therapy i.e. *Yavaksharadi vati* orally and *Panchvalkal kwath* for *Kawal* non significant effect statistically on TLC at the level of $p > 0.05$ ($t = 1.87$) and per-

centage improvement of 0.74% with significant effect on Hb% and on ESR statistically there is 3.81% improvement in Hb% and 41.72% improvement in ESR.

Table 4: Overall effect in 20 patients under trial

Assessment	Single group	
	No. of patients	%
Cured	0	0
Markedly improved	4	20
Moderately improved	16	80
Improved	0	0
Unimproved	0	0

Complete cure was not found in this trial group.

Single trial group –

4 patients were markedly improved and 16 patients were moderately improved.

In total, out of 20 patients 20% were markedly improved and 80% were moderate improved.

Probable mode of action -

The disease *Tundikeri* (Tonsillitis) as described in Ayurvedic text is *kapha* and *rakta* predominant²² in which there is presence of oedema, enlargement of tonsil, pricking pain, burning sensation and suppuration.²³ Therefore the present study, trial drugs viz. *Yavak-*

sharadi vati (B.R. Mu. 61/68; C.D.) and *Panchvalkal kwath* (B.R. Mu. 61/78; C.D.) were selected with their valid classical reference. Ingredients of *Yavaksharadi vati* and *Panchvalkal Kwath* possess properties and pharmacological activities supportive for preventive and curative treatment of *Tundikeri* disease. These drugs also possess activities for relief and alleviation of sign and symptoms related to this disease. They are having *kapha raktahara doshkarma*. *Yavaksharadi vati* is having 43.76% of *kaphahara* and 25% of *pit-tahara dravyas* where as *panchvalkal kwath* is containing 50% of *kaphahara* and 50% of *pit-tahara dravyas*.

Major ingredient of *Yavaksharadi vati* i.e. *Daruhaldi* used in crude form and *Rasanjan*, extract form *Daruhaldi*; having properties like astringent, antibacterial, antipyretic and antiseptic. Alkaloid berberin obtained from *Daruhaldi* possesses antibacterial and anti-inflammatory activities.

Similar manner *Yavakshar* possesses antipyretic, wound purifying and healing properties; *Pippali* with its main component piperine alkaloid possesses antimicrobial, antipyretic and immunomodulatory activities; *Patha* possesses astringent, antipyretic and anti-inflammatory properties.

Panchvalkal Kwath drugs proven to have properties like astringent, antiseptic, anti-inflammatory, immunomodulatory, antioxidant, antibacterial, antimicrobial and wound purifying and healing by clinical studies mentioned in classical literature.

Panchvalkal Kwath phytochemically dominant in phenolic group components like tannins, flavanoids which are mainly responsible for above mentioned activities.

Pathogenesis of Tonsillitis mainly involves immune system of body. So to overcome this; drugs acts through their immunomodulatory, anti-inflammatory and astringent properties.

In classical terms, it can be interpreted that *Katu, Tikta, Kashaya rasa, Laghu, Ruksha, Teekshna guna, Ushna veerya, Katu vipaak and Kaphapittaghna* properties of drugs are responsible to break the *samprapti* of *Tundikeri* disease.

According to different Ayurvedic texts these drugs are also having properties mentioned against each other which may play a role to break the *samprapti* of disease *Tundikeri*.

Yavakshara is *Vishghna, Shothahara, Vedanahara, Aampachana, Shodhana, Kasaghna, Rasayana*. **Patha** is *Jvaraghna, Vedanahara, Shodhana*. **Daruhaldi** is *Vishghna, Shothahara, Vedanahara, Shodana, Kasaghna, Dahaghna, Rakta prasadana*. **Rasayana** is *Vishghna, Shodhana, Kasaghna, Dahaghna, Raktaprasadana, Rasayana*. **Tejbal** is *Jvarghna, Vedanahara, Aampachana, Kasaghna*. **Pippali** is *Jvarghna, Vedanahara, Aampachana, Kasaghna, Rasayana*. **Madhu** is *Vishghna, Shodhana, Kasaghna*. **Vata** is *Vishghana, Shodhana, Vedanahara, Shodhana, Dahaghna, Rakta prasadana, Rasayana*. **Udumbara** is *Shothahara, Vedanahara, Shodhana, Dahaghna, Raktaprasadana*. **Ashwatha** is *Vishghna, Shothahara, Vedanahara, Shodhana, Kasaghna, Dahaghna, Raktaprasadana*. **Parisha** is *Vishghna, Shothahara, Vedanahara, Shodhana, Dahaghna, Rakta prasadana*. **Plaksais** is *Vishghna, Shothahara, Vedanahara, Shodhana, Dahaghna, Raktaprasadana*.

DISCUSSION

Try to find the co-relation of *Tundikeri* with Tonsillitis

Causative factors responsible for *Tundikeri* disease-

Excessive intake of fish, pig, buffalo's meat, more consumption of urad, curd. Milk. *Shukta*, *ikshurasa*, and *phanita*. These *nidanas* along with factors like sleeping in prone position, improper dental hygiene, improper *dhumpana*, *vaman*, *siravyadha* causes the disease *Tundikeri*.

There is no specific *nidana* mentioned for the disease *Tundikeri* in either of the Samhitas. However, there are references of the factors responsible for the causative of disease in *Mukha* as a whole.

In tonsillitis disease the causative factors responsible i.e. upper respiratory tract infection, chronic sinusitis, lower body resistance, exposure of contagious infection, poor orodental hygiene, embedded foreign body. Intake of cold drinks or cold climate. Hence the causative factors of *Tundikeri* and Tonsillitis nearly same.

Signs and symptoms -

Acharya Sushruta stated that *shopa*, *shula*, *toda*, *daha* and *prapaka* and collectively seen in *Tundikeri*. These signs and symptoms are co-related with acute tonsillitis i.e. *shopa sthola* - enlarged tonsil, *Daha* - burning sensation, *prapaka* - suppuration.

Acharya Sushruta has described two *hanusandhi* (Su. Sh. 5/30) and location of *Tundikeri* according to Acharya Vagbhatta *hanusandhyashrita* so these are in two numbers. According to modern text the palatine tonsils are two masses of lymphoid tissue situated in the lateral wall of the oral part of the pharynx.

According to Acharya Vagbhatta *kantha shopa* of *Karpasiphala* i.e. enlarged tonsil, *pichchil* type discharge i.e. discharge from crypts or debris over tonsil, *manda rukha* i.e. sore throat and *kathin shopa* i.e. congestion our tonsil. So these signs and symptoms can be co-related with *Tundikeri* to Tonsillitis.

From above discussion we can conclude that in Ayurveda the signs and symptoms of *Tundikeri* in a very brief manner as Tonsillitis.

Treatment -

In the disease if not controlled by *shaman chikitsa*, *shastra chikitsa* like *Galashundi* has to prefer (*chedan*).

According to modern if tonsillitis is not responding to medical treatment then indication of tonsillectomy.

Complication of *Tundikeri* after *chedan* similar to tonsillectomy i.e. haemorrhage, death.

Sadhya Asadhyata of *Tundikeri* to Tonsillitis similar that disease is *sadhya* (curable).

CONCLUSION:-

The disease *Tundikeri* can be correlated with the Tonsillitis as the causative factor, signs and symptoms and treatment wise.

The results of trial drugs was encouraging and can be recommended for standard protocol for treatment of *Tundikeri* after extensive study.

During the clinical trial any type of minor or major complications was not observed in patients.

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