

A CLINICAL STUDY ON THE TUNDIKERI (TONSILLITIS) HARA EFFECT OF CHINCHA BHEEJA (*Tamarindus indica L.*) PAINT

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ABSTRACT

In Ayurveda Tundikeri is explained under diseases of oral cavity. This disease is grossly explained in Ayurvedic literature under classifications of Kantagata and Talugata roga. In contemporary science, it may be correlated to Tonsillitis. Tundikeri not only cripples children from majority of their enjoyable and learning movement but also makes adults to feel uneasy, restless and even bed ridden, if complication occurs. 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. 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 tract and further more surgical procedure has its own complication also. In this study 40 patients were divided in to 4 groups. Fresh paste (FP)- Seed rubbed against rough surface and made into paste and then applied to Group-1; Paste of dried paste (PDP)-Seed rubbed against the rough surface then made in to paste, this paste allowed to dry then made in to fine powder. This was applied mixed with water to Group-2; Paste of powder (PP) - Seeds were pulverized and were subjected for sieving to obtain fine powder. This was applied to group-3; Placebo (PL) was given to Group-4. Group-1 patients have shown better percentage of result when compared to other 3 Groups. That means Fresh Paste is more effect then other forms. The result with Group-3 that is Paste of powder (PP) has shown next better results. Group-2 that is Paste of dried paste (PDP) has not given satisfactory result, but better then Placebo Group-4. Even with Antibiotic treatment

Tonsillitis needs 7-8 days for complete remission. Besides it reoccurs. Frequent use of Antibiotics reduces quality of life, disturbs immunity. If tonsils are operated or removed then leads to total immunity problems. Tonsillitis stands as unattended problem in this society. Chinch beeja has effectively controlled tonsillitis permanently. It is not mentioned in any classical books. Hence it comes under extra pharmacopeia drugs. The rate of remission of Tonsils swelling includes it in Fast Acting Drugs (FAD) of Ayurveda. As the drug applied locally with special instrument called Tonsils cops, the drug inaugurates a new clinical extension of Dravyaguna vignana “Dravyaguna Kriyayogas”.

KEY WORDS: Tundikeri, Tonsillitis, Tamarindus indica, Chinch, Ayurvedic Treatment of Tonsillitis, Dravyaguna Kriyayogas, Dravyaguna.

INTRODUCTION

Ayurveda like every science has its own philosophy and its own way of approach. Clinical research is the most fruitful line of approach to evaluate the methods of diagnosis, treatment and evaluation of efficacy of the drugs. The keen observations during the clinical study are the final aspects to prove efficacy of the drugs.

Our ancient Acharyas have laid down some strict parameters to remain healthy, and had discovered some wonderful drugs to get rid of diseases. But in the present time due to over exploitation of herbal resources many precious drugs have become extinct and many are at the verge of extinction. In this scenario there is strong need to improve our materia- medica by new drugs which are abundantly found in the nature and be effective on existing ailment.

Also Acharya Charaka has mentioned that the knowledge about new drugs can be obtained through the shepherds, cowherds or local residents, Practitioners of that particular area. Keeping this concept in mind, the present drug Chinch beeja (Tamarindus indica Linn). Late Sri Balaraj Maharshi the Former advisor on Ayurveda to the government of Andhra Pradesh, India & Brazil founder of S.V Ayurvedic College has suggested Chinch beeja Lepa in Tonsillitis.

PLAN OF ACTION

1. Patients suffering from Tundikeri were selected on the basis of classical signs and symptoms described in classical texts by giving special importance to Cardinal Symptoms like Shotha, Toda, Daha, Paka etc.

2. Patient attending O.P.D. of Dravyaguna, S.V Ayurvedic hospital, Tirupati. were selected randomly irrespective of their age, sex and religion etc.

3. A Health checkup camp for the students of Nehru municipal school, Tirupati, examined 300 students and picked up few patients and gave treatment to them.



Image No. 1, 2 Health checkup camp

GROUPING OF PATIENTS

1. Fine seed powder made in machine, this has given to one group. PASTE OF POWDER (PP).

2. Seed rubbed against the rough surface then made in to paste, allow drying then made in to fine powder. This has given to one group. PASTE OF DRIED PASTE (PDP).

3. Seed rubbed against rough surface and made into paste and then applied to one group. FRESH PASTE (FP).

4. Placebo. (PL)

MATERIAL AND METHODS

- ❖ Chinch beeja
- ❖ Distilled water
- ❖ Haridra churna
- ❖ Flat rough stone (which is used for Sandal paste preparation)
- ❖ Sterile cotton
- ❖ Tundikeri salaka (Tonsil cops)
- ❖ Spirit lamp

- ❖ Water heater
- ❖ Glass bowl
- ❖ Glass tumbler

Tundikeri salaka (Tonsil cops) is an arrow shaped 12c.m length instrument which is made up of silver.

Head of this instrument have rough surfaced edges this type of edges useful for holding Cotton without escaping.

This instrument is very comfortable for applying the medicine on surface of tonsils.



Image No. 3 Tundikeri salaka (Tonsil Cops).

Drug Administration

- ❖ Patient made to gargle with lukewarm haridra kwatha.
- ❖ Applied the chinch beeja lepa on affected tonsils with the help of tonsil cops which made up of silver.
- ❖ Same procedure continued for 3 days.

Form : The drug was applied on effected tonsil in the form of Lepa
Route : External application
Duration : 3 days

This procedure conducted in Dravyaguna Kriyayoga Theatre; S.V. Ayurvedic Hospital, Tirupati.

INCLUSION CRITERIA

1. Age group of 2years to 60years
2. Patient having symptoms of tonsillitis viz. throat pain, dysphagia ,fever etc
3. Patient willing for treatment
4. Patients of either sex will be included

EXCLUSION CRITERIA

1. Tonsillitis with complications e.g. Quincke, laryngeal edema, abscess
2. Age group below 2 years and above 60 years
3. Other conditions which mimic tonsillitis e.g. diphtheria, herpes etc.

PARAMETERS

Criteria to assess the effect of the trial drug

All the selected patients are advised to come for treatment of three days.

Subjective assessment

The symptoms that are assessed in patients are

1. Dysphagia
2. Redness in mucus membrane
3. Temperature
4. Enlargement of tonsils
5. Halitosis(Bad Breath)
6. Pricking pain

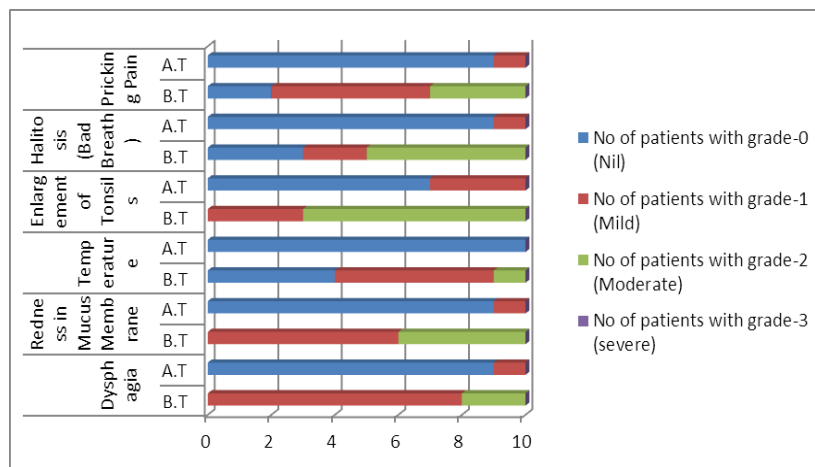
OBSERVATION AND RESULTS

GRADATION OF SYMPTOMS BEFORE AND AFTER TREATMENT

Table. No. 1 Gradation Of Symptoms Before And After Treatment In Group -1(FP)

Symptoms		No of patients with grade-0 (Nil)	No of patients with grade-1 (Mild)	No of patients with grade-2 (Moderate)	No of patients with grade-3 (severe)
Dysphagia	B.T	0	8	2	0
	A.T	9	1	0	0
Redness in Mucus Membrane	B.T	0	6	4	0
	A.T	9	1	0	0
Temperature	B.T	4	5	1	0
	A.T	10	0	0	0
Enlargement of Tonsils	B.T	0	3	7	0
	A.T	7	3	0	0
Halitosis (Bad Breath)	B.T	3	2	5	0
	A.T	9	1	0	0

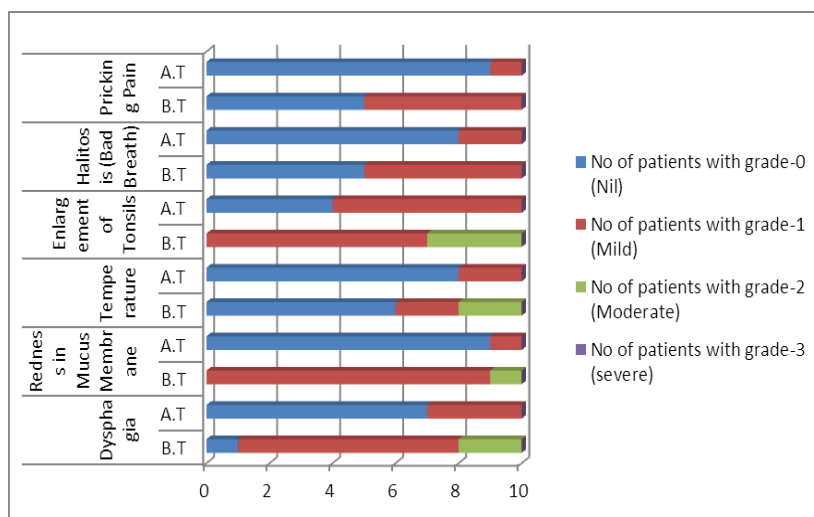
Pricking Pain	B.T	2	5	3	0
	A.T	9	1	0	0



Graph No.1 Symptoms Before and After Treatment of Group-1 (Fp)

Table No.2 Gradation of Symptoms Before and After Treatment in Group -2 (Pdp)

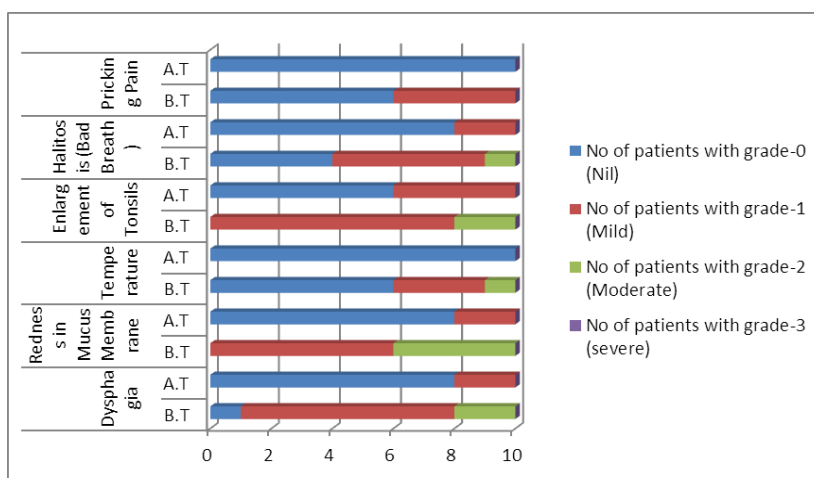
Symptoms		No of patients with grade-0 (Nil)	No of patients with grade-1 (Mild)	No of patients with grade-2 (Moderate)	No of patients with grade-3 (severe)
Dysphagia	B.T	1	7	2	0
	A.T	7	3	0	0
Redness in Mucus Membrane	B.T	0	9	1	0
	A.T	9	1	0	0
Temperature	B.T	6	2	2	0
	A.T	8	2	0	0
Enlargement of Tonsils	B.T	0	7	3	0
	A.T	4	6	0	0
Halitosis (Bad Breath)	B.T	5	5	0	0
	A.T	8	2	0	0
Pricking Pain	B.T	5	5	0	0
	A.T	9	1	0	0



Graph No.2 Symptoms Before and After Treatment of Group-2 (Pdp)

Table No.3 Gradation of Symptoms Before and After Treatment in Group -3 (PP)

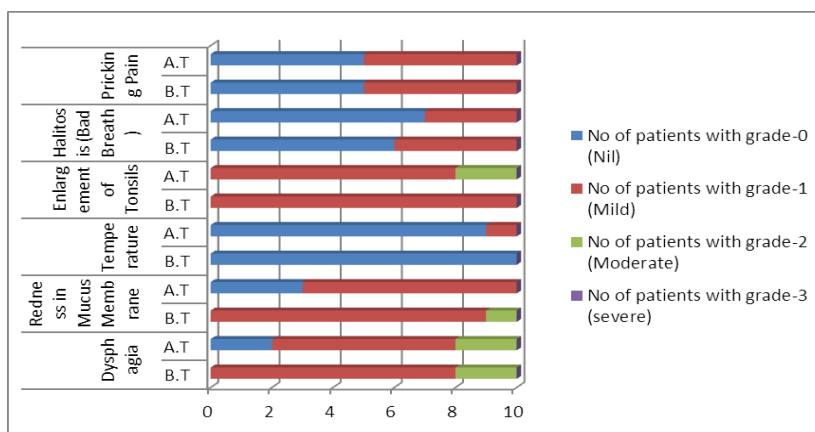
Symptoms		No of patients with grade-0 (Nil)	No of patients with grade-1 (Mild)	No of patients with grade-2 (Moderate)	No of patients with grade-3 (severe)
Dysphagia	B.T	1	7	2	0
	A.T	8	2	0	0
Redness in Mucus Membrane	B.T	0	6	4	0
	A.T	8	2	0	0
Temperature	B.T	6	3	1	0
	A.T	10	0	0	0
Enlargement of Tonsils	B.T	0	8	2	0
	A.T	6	4	0	0
Halitosis (Bad Breath)	B.T	4	5	1	0
	A.T	8	2	0	0
Pricking Pain	B.T	6	4	0	0
	A.T	10	0	0	0



Graph No.3 Symptoms Before and After Treatment Of Group-3 (Pp)

Table No.4 Gradation of Symptoms Before and After treatment in Group -4 (PI)

Symptoms		No of patients with grade-0 (Nil)	No of patients with grade-1 (Mild)	No of patients with grade-2 (Moderate)	No of patients with grade-3 (severe)
Dysphagia	B.T	0	8	2	0
	A.T	2	6	2	0
Redness in Mucus Membrane	B.T	0	9	1	0
	A.T	3	7	0	0
Temperature	B.T	10	0	0	0
	A.T	9	1	0	0
Enlargement of Tonsils	B.T	0	10	0	0
	A.T	0	8	2	0
Halitosis (Bad Breath)	B.T	6	4	0	0
	A.T	7	3	0	0
Pricking Pain	B.T	5	5	0	0
	A.T	5	5	0	0



Graph No.4 Symptoms Before and After Treatment of Group-4 (PI)

STATISTICAL ANALYSIS OF DATA

Table No.5 Statistical Comparison of Group-1

Parameter	Mean		Mean Diff	% of relief	S.D		S.E		t-value	P value	Significance
	B.T	A.T			B.T	A.T	B.T	A.T			
Dysphagia	1.20	0.10	1.10	91.67	0.42	0.32	0.13	0.10	11.0000	<0.0001	Extremely significant
Redness in Mucus Membrane	1.40	0.10	1.30	92.85	0.52	0.32	0.16	0.10	8.5105	<0.0001	Extremely significant
body temperature	0.70	0.00	0.70	100	0.67	0.00	0.21	0.00	3.2796	0.0095	Very significant
Enlargement of tonsils	1.70	0.30	1.40	82.35	0.48	0.48	0.15	0.15	8.5732	<0.0001	Extremely significant
Halitosis	1.20	0.10	1.10	91.67	0.92	0.32	0.29	0.10	3.9727	0.0032	Very significant
Pricking pain	1.10	0.10	1.00	90.90	0.74	0.32	0.23	0.10	4.7434	0.0011	Very significant

Above table shows reduction of Tonsillitis symptoms statistically in Group-1

Effect of Chinch bheeja fresh paste (F.P) on dysphagia of tonsillitis

Chinch bheeja Fresh Paste reduced Dysphagia of tonsillitis by 91.67% which was statistically extremely significant ($p < 0.0001$).

Effect of Chinch bheeja fresh paste (F.P) on Redness in Mucus Membrane of tonsillitis

Chinch bheeja Fresh Paste reduced Redness in Mucus Membrane of tonsillitis by 92.85% which was statistically extremely significant ($p < 0.0001$).

Effect of Chinch bheeja fresh paste (F.P) on Body temperature of tonsillitis: Chinch bheeja Fresh Paste reduced Body temperature of tonsillitis by 100% which was statistically very significant ($p = 0.0095$).

Effect of Chinch bheeja fresh paste (F.P) on Enlargement of Tonsils of tonsillitis:

Chinch bheeja Fresh Paste reduced Enlarged Tonsils by 82.35% which was statistically extremely significant ($p < 0.0001$).

Effect of Chinch bheeja fresh paste (F.P) on Halitosis of tonsillitis: Chinch bheeja Fresh Paste reduced Halitosis of tonsillitis by 91.67% which was statistically very significant ($p = 0.0032$).

Effect of Chinch bheeja fresh paste (F.P) on Pricking pain of tonsillitis: Chinch bheeja Fresh Paste reduced Pricking pain of tonsillitis by 90.90% which was statistically very significant ($p = 0.0011$).

Table No.6 Statistical Comparison of Group-2 (Pdp)

Parameter	Mean		Mean Diff	% of relief	S.D		S.E		t-value	P value	Significance
	B.T	A.T			B.T	A.T	B.T	A.T			
Dysphagia	1.10	0.30	0.80	72.72	0.57	0.48	0.18	0.15	6.0000	0.0002	Extremely significant
Redness in Mucus Membrane	1.10	0.10	1.00	90.90	0.32	0.32	0.10	0.10	6.7082	<0.0001	extremely significant
body temperature	0.60	0.20	0.40	66.67	0.84	0.42	0.27	0.13	2.4495	0.0368	Significant
enlargement of tonsils	1.30	0.60	0.70	53.84	0.48	0.52	0.15	0.16	4.5826	0.0013	Very significant
Halitosis	0.50	0.20	0.30	60	0.53	0.42	0.17	0.13	1.9640	0.0811	Not significant
pricking pain	0.50	0.10	0.40	80	0.53	0.32	0.17	0.10	2.4495	0.0368	Significant

Above table shows reduction of Tonsillitis symptoms statistically in Group-2

Effect of Chinch bheeja Paste of Dried Paste (P.D.P) on dysphagia of tonsillitis:

Chinch bheeja Paste of Dry Powder (P.D.P) reduced Dysphagia of tonsillitis by 72.72% which was statistically extremely significant ($p=0.0002$).

Effect of Chinch bheeja Paste of Dried Paste (P.D.P on Redness in Mucus Membrane of tonsillitis: Chinch bheeja Paste of Dry Powder (P.D.P) reduced Redness in Mucus Membrane of tonsillitis by 90.90% which was statistically extremely significant ($p<0.0001$).

Effect of Chinch bheeja Paste of Dried Paste (P.D.P) on Body temperature of tonsillitis: Chinch bheeja Paste of Dry Powder (P.D.P) reduced Body temperature of tonsillitis by 66.67% which was statistically significant ($p=0.0368$).

Effect of Chinch bheeja Paste of Dried Paste (P.D.P)) on Enlargement of Tonsils of tonsillitis: Chinch bheeja Paste of Dry Powder (P.D.P) reduced Enlarged Tonsils by 53.84% which was statistically very significant ($p<0.0013$).

Effect of Chinch bheeja Paste of Dried Paste (P.D.P) on Halitosis of tonsillitis: Chinch bheeja Paste of Dry Powder (P.D.P) reduced Halitosis of tonsillitis by 60% which was statistically not significant ($p=0.0811$).

Effect of Chinch bheeja Paste of Dried Paste (P.D.P) on Pricking pain of tonsillitis: Chinch bheeja Paste of Dry Powder (P.D.P) reduced Pricking pain of tonsillitis by 80% which was statistically significant ($p=0.0368$).

Table No.7 Statistical Comparison OF Group-3 (PP)

Parameter	Mean		Mean Diff	% of relief	S.D		S.E		t-value	P value	Significance
	B.T	A.T			B.T	A.T	B.T	A.T			
Dysphagia	1.10	0.20	0.90	81.81	0.57	0.42	0.18	0.13	5.0138	0.0007	Extremely significant
Redness in Mucus Membrane	1.40	0.20	1.20	85.71	0.52	0.42	0.16	0.13	9.0000	<0.0001	Extremely significant
body Temperature	0.50	0.10	0.40	80	0.71	0.32	0.22	0.10	2.4495	0.0368	Significant
enlargement of tonsils	1.20	0.40	0.80	66.67	0.42	0.52	0.13	0.16	6.0000	0.0002	Extremely significant
Halitosis	0.70	0.20	0.50	71.42	0.67	0.42	0.21	0.13	3.0000	0.0150	Significant
Pricking Pain	0.40	0.00	0.40	100	0.52	0.00	0.16	0.00	2.4495	0.0368	Significant

Above table shows reduction of Tonsillitis symptoms statistically in Group-3

Effect of Chinch bheeja paste of Powder (P.P) on dysphagia of tonsillitis: Chinch bheeja Paste of Powder (P.P) reduced Dysphagia of tonsillitis by 81.81% which was statistically extremely significant ($p=0.0007$).

Effect of Chinch bheeja paste of Powder (P.P) on Redness in Mucus Membrane of tonsillitis: Chinch bheeja Paste of Powder (P.P) reduced Redness in Mucus Membrane of tonsillitis by 85.71% which was statistically significant ($p<0.0001$).

Effect of Chinch bheeja Paste of Powder (P.P) on Body temperature of tonsillitis: Chinch bheeja Paste of Powder (P.P) reduced Body temperature of tonsillitis by 80% which was statistically significant ($p=0.0368$).

Effect of Chinch bheeja Paste of Powder (P.P) on Enlargement of Tonsils of tonsillitis: Chinch bheeja Paste of Powder (P.P) reduced Enlarged Tonsils by 66.67% which was statistically extremely significant ($p=0.0002$).

Effect of Chinch bheeja Paste of Powder (P.P) on Halitosis of tonsillitis: Chinch bheeja Paste of Powder (P.P) reduced Halitosis of tonsillitis by 71.42% which was statistically significant ($p=0.0150$).

Effect of Chinch bheeja Paste of Powder (P.P) on Pricking pain of tonsillitis: Chinch bheeja Paste of Powder (P.P) reduced Pricking pain of tonsillitis by 100% which was statistically significant ($p=0.0368$).

Table No. 8 Statistical Comparison of Group-4 (PL)

Parameter	Mean		Mean Diff	% of relief	S.D		S.E		t-value	P value	Significance
	B.T	A.T			B.T	A.T	B.T	A.T			
Dysphagia	1.20	1.00	0.20	16.67	0.42	0.67	0.13	0.21	1.0000	0.3434	Not significant
Redness in Mucus Membrane	1.10	0.70	0.40	36.37	0.32	0.48	0.10	0.15	2.4495	0.0368	Significant
Temperature	0.00	0.10	0.10	0	0.00	0.32	0.00	0.10	1.0000	0.3434	Not significant
enlargement of tonsils	1.00	1.20	0.20	20	0.00	0.42	0.00	0.13	1.5000	0.1679	Not significant
Halitosis	0.40	0.30	0.10	25	0.52	0.48	0.16	0.15	1.0000	0.3434	Not significant
pricking pain	0.40	0.50	0.10	25	0.52	0.53	0.16	0.17	1.0000	0.3434	Not significant

Above table shows reduction of Tonsillitis symptoms statistically in Group-4

Effect of Placebo (P.L) on dysphagia of tonsillitis: Placebo (P.L) effect on Dysphagia of tonsillitis by 16.67% which was statistically not significant ($p=0.3434$).

Effect of Placebo (P.L) on Redness in Mucus Membrane of tonsillitis: Placebo (P.L) effect on Redness in Mucus Membrane of tonsillitis by 36.37% which was statistically significant ($p=0.0368$).

Effect of Placebo (P.L) on Body temperature of tonsillitis: Placebo (P.L) effect on Body temperature of tonsillitis by 0% which was statistically not significant ($p=0.3434$).

Effect of Placebo (P.L) on Enlargement of Tonsils of tonsillitis: Placebo (P.L) effect on Enlarged Tonsils by 20% which was statistically not significant ($p=0.1679$).

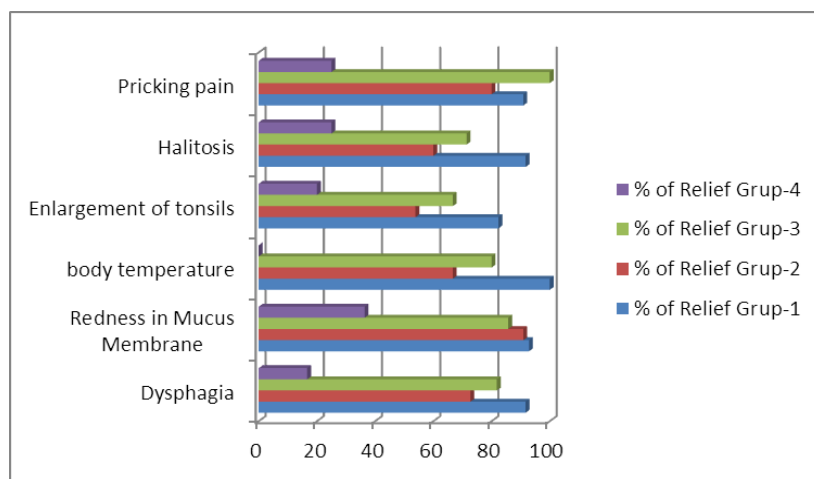
Effect of Placebo (P.L) on Halitosis of tonsillitis: Placebo (P.L) effect on Halitosis of tonsillitis by 25% which was not significant ($p=0.3434$).

Effect of Placebo (P.L) on Pricking pain of tonsillitis: Placebo (P.L) effect on Pricking pain of tonsillitis by 25% which was statistically not significant ($p=0.3434$).

Table No: 9: Over All Result Of The Study According to % of Relief

Parameter	% of Relief			
	Grup-1	Grup-2	Grup-3	Grup-4
Dysphagia	91.67	72.72	81.81	16.67
Redness in Mucus Membrane	92.85	90.9	85.71	36.37
body temperature	100	66.67	80	0
Enlargement of tonsils	82.35	53.84	66.67	20
Halitosis	91.67	60	71.42	25
Pricking pain	90.9	80	100	25

Above table shows reduction of Tonsillitis symptoms statistically in 4 groups.



Graph no: 5 overall result of the study according to % of relief

Above Graph shows statistically Group-1 patients have shown better percentage of result when compared with other 3 Groups, because Fresh Paste is more effective than other forms. The result with 3rd group Chinch beeja powder mixed with water has shown next better results. 2nd group chinch beeja dry powder has not given satisfactory result. But better than Placebo Group.

Table No: 10 Inter Group Comparison (Anova Single Factor Result)

S. No	Symptom	F-Value	P-Value	Significance
1	Dysphagia	6.000	0.0020	Very significant
2	Redness in Mucus Membrane	7.222	0.0006	Extremely significant
3	Temperature	4.041	0.014	Significant
4	Enlargement of Tonsils	22.46	<0.0001	Extremely significant
5	Halitosis (Bad Breath)	5.419	0.0035	Very significant
6.	Pricking Pain	7.515	0.0005	Extremely significant

The results of a ANOVA statistical test for all symptoms of Tundikeri is significant

Overall effect of Chinch bheeja on dysphagia of tonsillitis: Chinch bheeja effect on Dysphagia of tonsillitis was statistically very significant ($p=0.0020$).

Overall effect of Chinch bheeja on Redness in Mucus Membrane of tonsillitis: Chinch bheeja effect on Redness in Mucus Membrane of tonsillitis was statistically extremely significant ($p=0.0006$).

Overall effect of Chinch bheeja on Body temperature of tonsillitis: Chinch bheeja effect on Body temperature of tonsillitis was statistically significant ($p=0.014$).

Overall effect of Chinchabheeja on Enlargement of Tonsils of tonsillitis: Chinchabheeja effect on Enlarged Tonsils of tonsillitis was statistically extremely significant ($p < 0.0001$).

Overall effect of Chinchabheeja on Halitosis of tonsillitis: Chinchabheeja effect on Halitosis of tonsillitis was statistically very significant ($p = 0.0035$).

Overall effect of Chinchabheeja on Pricking pain of tonsillitis: Chinchabheeja effect on Pricking pain of tonsillitis was statistically extremely significant ($p = 0.0005$).

PHOTOS OF BEFORE & AFTER TREATMENT

BEFORE TREATMENT



AFTER TREATMENT



Case No:1 (Group-3)

BEFORE TREATMENT

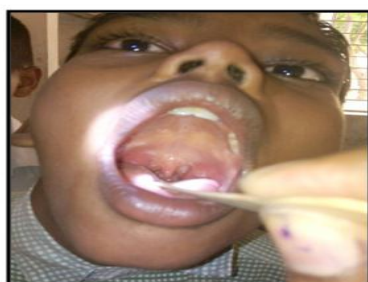


AFTER TREATMENT

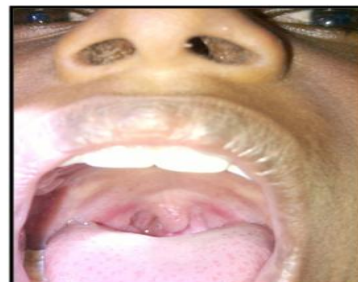


Case No: 4 (Group-3)

BEFORE TREATMENT



AFTER TREATMENT

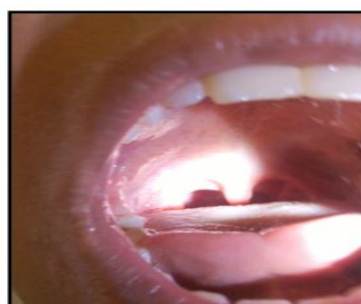


Case No: 5(Group-1)

BEFORE TREATMENT

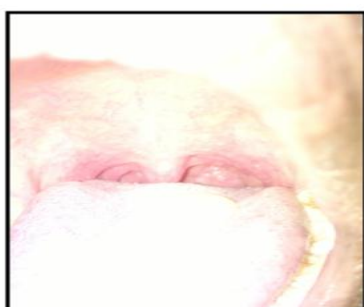


AFTER TREATMENT

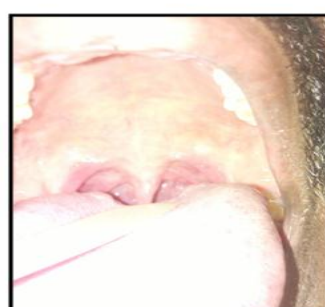


Case No: 6 (Group-1)

BEFORE TREATMENT



AFTER TREATMENT



Case No: 7 (Group-1)

BEFORE TREATMENT



AFTER TREATMENT



Case No: 8 (Group-2)

BEFORE TREATMENT



AFTER TREATMENT



Case No: 10 (Group-2)

BEFORE TREATMENT



AFTER TREATMENT



Case No: 10 (Group-1)

CONCLUSION

1. Involvement of Mamsa dhatu could be at the level of poshaka mamsa dhatu level. Rakta dhatu Marghavarodha caused by the either sotha (caused by Bacteria, virus, allergens) or Kapha dosha produced by Nidhana. They obstruct the flow of Rasa Rakta dhatu and inhibit the further dhatu posana (metabolism). The nutrients fraction of Mamsa dhatu retained in the blood accumulate in Tonsils. The accumulated mamsa dhatu produces a Granthi.
2. Reasons for the disturbance of tonsils are mentioned in Nidana of Tundikeri. i.e., Snigdha ahara, abhisyandhi ahara etc. Involvement of Bacteria, Virus, allergens is also reason for Tonsils vitiation.
3. Tonsils are considered as gate way of intestines, so it likely causes tonsillitis, further it becomes sensitive and repeated attacks of Vyadhi is possible.
4. If avarodha of rasa-rakta channels occur to generate swelling and thus become Granthi. And further complications are seen i.e Dysphagia, Fever etc.
5. The line of treatment could be Lekhana and Soshana. Lekhana reduces obstruction, Soshana cause for absorption of obstruction. Thus Tundikeri becomes normal.
6. Chinch bheja is Kashaya in rasa, Ruksha in guna promotes absorption, and Kaphahara action removes obstruction. Krimi hara Karma of Chinch bheja destroys Bacteria, Virus invaded in to tonsils.
7. The chemical composition of Chinch beeja is found peculiar with chemical named as Xyloglucan (XG)⁶⁵. It is very hydroscopic in nature and found to be effective. To prove it another study is required.
8. Group-1 patients have shown better percentage when compared with other 3 Groups. That

means Fresh Paste is more effect then other forms.

9. The result with 3rd group Chinch beeja powder mixed with water has shown next better results. 2nd group chinch beeja dry powder has not given satisfactory result. But better than Placebo Group.

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