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Research Article

TANKANA BHASMA KAVALA IN CHRONIC TONSILLITIS

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ABSTRACT

Tundikeri or tonsillitis is a common throat problem in young children and not uncommon in adults too. It greatly affects the comfort of the person due to pain, burning sensation, dysphagia, swelling, sore throat, fever etc. It may present as an acute or a chronic condition. It leads to many complications such as recurrent upper respiratory tract infections, growth retardation, bronchial asthma, rheumatic heart disease etc. In contemporary science, treatment principles include antibiotics, analgesics and surgical excision. *Tankana Bhasma* (Borax) a well known *kshara dravya* (alkaline substance) has got potent anti inflammatory and healing properties. Hence, it has been used as a treatment in chronic tonsillitis in the form of a gargle. To ensure scientific validity of the efficacy, a comparative study was conducted between Aspirin tablet and *Tankana bhasma* which was statistically analyzed. In the study *Tankana bhasma* showed significant relief of symptoms that were statistically significant.

Keywords: *Tundikeri*, Chronic tonsillitis, *Kshara*, *Tankana Bhasma*, Aspirin tablet, *Kavala*

INTRODUCTION

Tundikeri a *Talugata Vyadhi* is characterized by swelling in throat region (posterior palatal), pricking pain and burning sensation. It has got the tendency of suppuration too¹. *Acharya Vagbhata* included this condition under *Kantagata rogas* as this disease occurs at *Hanu-Sandhiashrita-Kanta Pradesha*².

The clinical features of *Tundikeri* can be compared with tonsillitis. The palatine tonsils and the nasopharyngeal tonsil are lymphoepithelial tissues located near the oropharynx and nasopharynx. These immunocompetent tissues are the immune system's first line of defence against ingested or inhaled bacterial or viral pathogens and are thus prone to frequent attacks of infection. Poor orodental hygiene, poor nourishment, improper diets are the important predisposing factors. It often affects school-going children, but is also seen in adults. It is rare in infants and above the age of 50yrs. Tonsillitis is of two kinds namely acute and chronic. In acute tonsillitis there will be throat pain, dysphagia, malaise, anorexia, fever and body ache. The tonsils appear to be swollen and congested. There may be oedema of uvula and soft palate along with enlarged and tender jugulo-digastric lymph nodes³.

Chronic tonsillitis causes due to recurrent acute infections treated inadequately. The common features are throat pain,

sore throat, cacagus, halitosis, dysphagia etc. Tonsils fail to regain its normal shape and size with hypertrophy and hyperemia of pillars. It may lead to several complications like recurrent upper respiratory tract infections, growth retardation, bronchial asthma, rheumatic heart disease, rheumatic fever, snoring etc⁴. In modern medical science the most common way to handle it is with anti inflammatory drugs and antibiotics. Often severe and/or recurrent tonsillitis is treated by tonsillectomy. But these approaches have their own limitations and lacunas such as drug resistance, reduced immunity, expensive etc. In Ayurveda there are many drugs described to treat this condition effectively. In classics, treatment principle for *Tundikeri* is same that of *Galashundika*, but only the difference is *Bhedana karma* is mentioned in place of *Chedana*⁵. When thought of non surgical, simple, effective and gainful treatment measure, *Kshara dravyas* (alkalis) stands first because of their property as well as efficacy.

Sushruta praised the effect of *Kshara* so much that it can replace *Shastra Karma* since it does the *chedana*, *bhedana*, *lekhana*, *darana*, *shothahara* and *ropana karmas* simultaneously without the help of the *Shastra*. It is a prime weapon of surgeons and considered as superior among *Shastras* and *anushastras*.

Tankana Bhasma (Borax $-Na_2 B_4 10H_2O$) a commonly available alkali appreciated as *Kshara raja* or *Kshara shresta*. It has got *katurasa*, *ushna* and *teekshna* properties. It is *vrana ropaka* as well as *vatakapha shamaka*⁶. It has been taken and used for gargling purpose in tonsillitis. The efficacy was compared with Aspirin tablet gargling.

MATERIALS AND METHODS

Sample source:

40 patients diagnosed with chronic tonsillitis were taken for the study from Alva's Ayurveda Hospital, Moodbidri. Patients were randomly selected into two Groups A & B irrespective of their sex, religion, socio-economic status etc. Each patient was selected for the trial after voluntary consent.

Study design: Randomized comparative clinical study.

Diagnostic criteria:

- Pain
- Burning sensation
- Dysphagia
- Swelling
- Reddish discoloration
- Halitosis
- White pus-filled spots on the tonsils
- Jugulo-digastric lymphadenopathy

Inclusion criteria:

1. Clinically diagnosed patients of chronic tonsillitis
2. Any individual above 8 yrs and below 40 yrs of age were selected irrespective of sex, occupation, religion, socio economic status etc.
3. Minimum 6 months of chronicity

Exclusion criteria:

1. Patients with peritonsillar abscess, parapharyngeal abscess, tonsillar lith, tonsillar cyst etc.
2. Acute conditions with fever and chills
3. Patients with complications of tonsillitis such as bronchial asthma, rheumatic heart disease, rheumatic fever etc
4. Tonsillitis associated with malignancy
5. In pregnant ladies

Laboratory investigations:

Routine blood investigation: Hb%, TC, DC, E.S.R.

Intervention:

Total study period is of 10 days

Group A- Patients were treated with Aspirin tablet 150mg dissolved water gargling for 7days.

Group B - Patients were treated with purified *Tankana bhasma* dissolved water gargling for 7days.

Follow up was done on 10th day

Procedure:

Group A

One tablet of Aspirin 150mg was dissolved in 50 ml of luke warm water and asked patient to gargle for 2 minutes twice a day before food.

Group B

About 5 gms of purified *Tankan bhasma* was dissolved in 50 ml of luke warm water and asked patient to gargle for 2 minutes twice a day before food.

Tab *Triphala guggulu* and *Gandhakarasyana* was given to all the patients of group A and B in the dose of 1Bd for 8 to 15 years age group and 1Tid for 16 to 40 years.

Assesment:

Clinical assessment was done on alternate days for 7 days and follow up was done on 10th day and the data obtained was analysed using paired student's t-test. Grading was given for every clinical feature and it is presented in Table No.1. Pictorial presentation was effectively used for evaluation.

RESULTS

On observation of the results with respect to the group A (Standard Group) and Group B (Trial Group) are denoted in the table No. 2 and 3 respectively. It shows that the treatment of the condition in both the groups have resulted in marked improvement which are statistically significant. Clinically too there is remarkable improvements with respect to the entire set of criteria in both the groups.

The therapy showed high significance on 7th day. There was a rapid decline in the mean value of pain, burning sensation and dysphagia in group B and showed more efficacious than group A. There was a great improvement with respect to swelling, halitosis and white spots in trial group than control group. As far as lymphadenopathy is concerned there was not much difference seen in both the groups.

Overall comparison of the effect of the therapy is presented in Table No 4. Accordingly, it is observed that the efficacy of the trial drug is much better than the effect of the standard drug. The comparison is also evaluated statistically and is found to be significant.

DISCUSSION

Based on the demographic profile (Table No.5) it is observed that tonsillitis is prevalent in life period of 8 to 20 yrs. Gender wise there was not much difference and students shows major incidence. These observations correspond to the aetiology being these groups are usually exposed to pathogenic factors.

Tankan bhasma gargling showed a high efficacy in immediate reduction of pain, burning sensation and dysphagia, which was highly significant. It may be due to anti-inflammatory, analgesic as well as healing property of *Tankana*. As *Tankana* is also known as a best bleaching agent and antiseptic, it results in the removal of media for the growth of pathogens. The marked improvement observed with respect to reddish discoloration and swelling in group B may be because of anti-inflammatory and parching property of *Tankana*. There was not much improvement seen in lymphadenopathy may be because of short treatment duration. During the trial it was observed that 1 among the 20 patients complained nausea after gargling. This may be due to non palatability of individual. During follow up period same status was observed in both the group.

CONCLUSION

- *Tundikeri* or tonsillitis is common problem of school going children
- *Tankana bhasma* considered as *Kshara raja* is good anti-inflammatory as well as *vrana ropaka*

- The gargling with *Tankan bhasma* dissolved water gives significant result in relieving the tonsillitis
- There was no any significant side effect except mild nausea in few patients due to non palatability.

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Table 1: Showing grading for clinical features

Features	Grading
Pain	0: Nil 1: Occasional 2: During food intake 3: Recurrent/several times per day 4: Throughout the day
Burning sensation	0: Nil 1: Occasional 2: During food intake 3: Recurrent/several times per day 4: Throughout the day
Dysphagia	0: Nil 1: Difficulty to consume solid food 2: Difficulty to consume liquid food 3: Difficulty to swallow saliva also
Swelling	0: Nil 1: 1 - 5 mm 2: 6 - 10 mm 3: 11- 15 mm 4: 16 mm and above
Reddish discoloration	0: Nil 1: Mild 2: Moderate 3: Severe
Halitosis	0: Nil 1: Present
White pus-filled spots on the tonsils	0: Nil 1: 1-2 spots 2: 3-4 spots 3: 5 and above
Lymphadenopathy	0: Nil 1: Only palpable without pain 2: Visible and palpable without pain 3: Visible and palpable with pain

Table 2: Showing treatment efficacy of control group ‘A’ after 7 days

Variable	Mean		SD	SE	“t”	“p”	Remark
	BT	AT					
Pain	2.35	1.55	0.67	0.15	5.27	<0.001	HS
Burning sensation	2.35	1.95	0.48	0.10	3.65	<0.001	HS
Dysphagia	1.6	1.25	0.47	0.10	3.28	<0.001	HS
Swelling	2.4	1.8	0.66	0.14	4.04	<0.001	HS
Reddish discoloration	2.1	1.7	0.48	0.10	3.65	<0.001	HS
Halitosis	0.7	0.55	0.35	0.07	1.87	<0.05	Mi.S
White pus spots	1.1	0.95	0.35	0.07	1.27	>0.1	IS
Lymphediniopathy	1.5	1.3	0.4	0.08	2.23	<0.2	Mi.S

HS: Highly significant; Mi.S: Minimal significant; IS: Insignificant

Table 3: Showing treatment efficacy of trial group ‘B’ after 7 days

Variable	Mean		SD	SE	“t”	“p”	Remark
	BT	AT					
Pain	2.25	0.65	1.01	0.22	7.01	<0.001	HS
Burning sensation	2.1	0.3	1.02	0.23	8.13	<0.001	HS
Dysphagia	1.5	0.4	0.70	0.15	7.02	<0.001	HS
Swelling	2.2	0.75	0.58	0.13	11.00	<0.001	HS
Reddish discoloration	2.0	0.5	0.80	0.18	8.32	<0.001	HS
Halitosis	0.75	0.1	0.47	0.10	6.09	<0.001	HS
White pus spots	1.3	0.45	0.65	0.14	5.81	<0.001	HS
Lymphediniopathy	1.7	0.75	0.49	0.11	8.53	<0.001	HS

HS: Highly significant

Table 4: Showing comparative efficacy of group A and B

Variable	Mean		“t”	“p”	Remark
	A	B			
Pain	1.6	0.8	2.95	<0.001	HS
Burning sensation	1.8	0.4	5.55	<0.001	HS
Dysphagia	1.1	0.35	3.97	<0.001	HS
Swelling	1.45	0.6	4.32	<0.001	HS
Reddish discoloration	1.5	0.4	5.27	<0.001	HS
Halitosis	0.25	0.15	3.05	<0.001	HS

Table 5: Showing demographic profile of group A and B patients

Age in years			Gender			Occupation			Chronicity (In months)		
	A	B		A	B		A	B		A	B
8-15	70%	75%	Male Female	55% 65%	60% 35%	Student	70%	75%	6-9	40%	35%
16-23	20%	20%				Sedentary	20%	15%	10-13	40%	50%
24-31	5%	5%				Physical	5%	5%	14-17	10%	5%
32-40	5%	0%				House wife	5%	5%	18->	10%	10%

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