

EFFECT OF *THRINAPANCHMULA KWATH* IN URINARY DISORDERS IN *GARBHINI*

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ABSTRACT:

UTI is one of the commonest problems among pregnant women. The prevalence of bacteriuria through out pregnancy ranges from 2 % - 8%. Increased frequency of micutrition is noticed at 6 – 8 weeks of pregnancy, it is due to the anteverted uterus irritating the fundus of the bladder. The stasis is marked between 20 – 24 weeks because of ureters become atonic due to high progesterone level, it is due to dextrorotation of the uterus pressing the right ureter against the pelvic brim and also due to pressure by the right ovarian vein which crosses the right ureter at right angle. There is marked hypertrophy of the muscle and the sheath of the ureter specially the pelvic part probably due to oestrogen. There is elongation, kinking and outward displacement of the ureters. In late pregnancy, frequency of micturition reappears due to pressure on the bladder as the presenting part descends down the pelvis, especially in primigravidae following early engagement. Urinary disorders are mainly caused due to vitiation of pitta dosh. Hence drugs in *thrinapanchamulam kashayam* are *madhura rasa, kashaya rasa* and *tikta rasa, seeta vriya, madhura vipaka* and also have *krimighna, mutrala* properties.

Key words: Urinary disorders.UTI. Micturition. *Thrinapanchamulam kashayam*

INTRODUCTION

Urinary tract infection is one of the most common bacterial infection seen mostly in young sexually active women. It is undoubtedly one of the

common medical as well as surgical, gynaecological & obstetrical problem in all the under developed, developing & developed countries of the world.

Urinary tract infection denotes the non-specific infections of the urinary

Manufactured & Marketed by

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Vaidyaratnam
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India - 680 322.

Ayurvedic Medicine

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Mode of administration of drug

Trinapanchamalam given in decoction form, 40 ml daily in two divided doses for three weeks. Patients were advised to drink 2 – 3 ltr of water per day.

CRITERIA FOR DIAGNOSIS;

A special proforma was prepared to maintain the records of findings during case takking.The condition with all the symptoms was assessed before and after treatment.Routine hematological and culture examination were done prior to the treatment.

RESULTS

The result of whole study is graded as follows.

Cured

- No supra pubic discomfort.

- Absence of RBCs in urine.
- Absence of pain during voiding.
- Absence of burning micturition.
- Normal frequency of micturition.
- Normal body temperature.
- Absence of vomiting.
- Normal Hb %

Improved

- Slight supra-pubic discomfort.
- Presence of 0-3 RBCs in urine.
- Mild pain during micturition.
- Slight burning micturition.
- Mild body temperature.
- 1-3 episodes of vomiting.
- 8 – 9 % of Hb %.

No change

No response to treatment.

Investigations

- Urine Analysis
 - Physical - Colour, PH, Specific gravity, reaction, sugar, albumin.
 - Microscopic - RBC cast & crystals, epithelial & pus
- Urine culture
- Hb%

RESULTS**Table No. 1 Subjective Parameters**

2 patients complaining of supra-pubic discomfort, improved after 1st week of treatment. In 2nd week both patients got relief from the complaint and in the 3rd week patients had no complaints.

Sl. No	Supra-pubic discomfort	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	0	0	0	0	0	0	0	0
2	Moderate	2	50 %	0	100%	0	100 %	0	100 %
3	Mild	0	0	2	100 %	0	100 %	0	100 %
4	No pain	0	0	0	100 %	2	100 %	2	100 %

Table No. 2**Showing the response over significant level (Supra-pubic discomfort)**

Statistical calculation is made every month after treatment, 1st week is 53.84%, 2nd week 100 % relief and 100 % in the 3rd week.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.13	0.06	53.84	0.07	0.26	0.047	1.44	< 0.2 & > 0.1	NS
2	0.13	0.00	100	0.13	0.507	0.09	1.44	< 0.2 & > 0.1	NS
3	0.13	0.00	100	0.13	0.507	0.09	1.44	< 0.2 & > 0.1	NS

Table No. 3**Showing the response over significant level(Vomiting)**

Statistical calculation is made, the response over significant in vomiting shows, 1st week 43.39%, 2nd week 62.26%, 3rd week 75.47%

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.5 3	0.33	43.39	0.20	0.40	0.073	2.69	< 0.02 & > 0.01	S
2	0.5 3	0.2	62.26	0.33	0.53	0.098	3.36	< 0.01 & > 0.001	S
3	0.5 3	0.13	75.47	0.4	0.72	0.13	3.02	< 0.01 & > 0.001	S

Table No. 4
Showing relief for the Anaemia

Out of 12 patients of anaemia, after 1st week of treatment 8 no change, 2 improved, 2 got relief; 2nd week of treatment. 4 improved, 3 no change, 5 got relief ; 3rd week of treatment 3 improved, 9 got relief.

Sl. No	Anaemia	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	2	16.66	2	16.66	1	8.33	0	0
2	Moderate	7	58.33	5	41.66	3	25.00	1	8.33
3	Mild	3	25.00	3	25.00	3	25.00	2	16.66
4	No	0	0	2	16.66	5	41.66	9	75.00

Table No. 5
Showing the response over significant level (Anaemia)

Statistical calculation is made, the response over significant in anaemia shows. 1st week 17.10 %, 2nd week 47.36 %, 3rd week 82.89 %.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.76	0.63	17.10	0.13	0.33	0.06	2.16	< 0.05 & > 0.02	S
2	0.76	0.4	47.36	0.36	0.61	0.11	3.27	< 0.01 & > 0.001	S
3	0.76	0.13	82.89	0.63	0.84	0.15	4.08	< 0.001	HS

Table No. 6
Showing response on urine examination. Urine P^H specific gravity, pus-cells and epithelial cells before treatment and after treatment (21 days).

	BT	AT	%	MD	SD	SE	T	P
P ^H	6.7	7	0.4	50.97	0.71	0.16	2.53	< 0.001
Specific Gravity	1.008	1.01	0.3	29.83	0.77	0.17	1.74	< 0.001
Pus Cells	2.85	1.05	1.8	63.15	1.42	0.32	5.64	< 0.001
Epithelial Cells	3.5	2.1	1.4	40	1.15	0.25	5.6	< 0.001

Table No. 7
Showing urine culture.

Urine Culture	No.of Cases	After Treatment
E-Coli	16	Reduction in colonies
Klebsiella	1	Reduction in colonies
Proteus	1	Reduction in colonies
No. of growth	8	
Not done	4	

Table No. 8

Out of 9 patients of dysuria after 1st week of treatment, 2 got relief, 6 improved and one found no changes. In the 2nd week, 6 got relief, 3 improved and after 3rd week, 7 got relief and 2 improved.

Sl. No	Pain during voiding	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	0	0	0	0	0	0	0	0
2	Moderate	3	33.33	1	11.11	0	0	0	0
3	Mild	6	66.66	6	66.66	3	33.33	2	22.22
4	No pain	0	0	2	22.22	6	66.66	7	77.77

Table No. 9

Showing the response over significant level (Dysuria)

Statistical calculation is made every week. After treatment, 1st week there is 25 % relief, after 2nd week 60 % relief and in the 3rd week 85 % relief.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.4	0.3	25.00	0.1	0.31	0.05	1.79	< 0.1 & > 0.05	NS
2	0.4	0.16	60.00	0.24	0.42	0.076	2.97	< 0.01 & > 0.001	S
3	0.4	0.06	85.00	0.34	0.54	0.09	3.34	< 0.01 & > 0.001	S

Table No. 10
Showing relief of Haematuria

Out of 3 patients of haematuria after 1st week, 1 got relief and 2 improved, after 2nd week 2 improved, 1 got relief. After 3rd week, 2 improved and 1 got relief.

Sl. No	No. of RBCs in urine	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Plenty of RBCs	1	33.33	0	0	0	0	0	0
2	3 – 5	1	33.33	2	66.66	0	0	0	0
3	0 – 3	1	33.33	0	0	2	66.66	2	66.66
4	No	0	0	1	33.34	1	33.34	1	33.34

Table No. 11
Showing the response over significant level (Haematuria)

Statistical calculation is made, the response over significant level in the haematuria shows 1st week 35%, 2nd week and 3rd week 35 %.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.2	0.13	35.00	0.07	0.24	0.044	1.44	< 0.2 & > 0.1	NS
2	0.2	0.13	35.00	0.07	0.24	0.044	1.44	< 0.2 & > 0.1	NS
3	0.2	0.13	35.00	0.07	0.24	0.044	1.44	< 0.2 & > 0.1	NS

Table No. 12
Showing the relief in frequency of micturition.

Out of 5 patients of frequent micturition, after 1 week of treatment, 1 got relief, 2 improved and 2 found no change. After 2nd week, 2 got relief, 2 improved and 1 found no change. After 3rd week, 3 got relief and 2 improved.

Sl. No	Frequency of micturition	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	1	20.00	0	0	0	0	0	0
2	Moderate	3	6.00	3	60.00	1	20.00	0	0
3	Mild	1	20.00	1	20.00	2	40.00	2	40.00
4	No	0	0	1	20.00	2	40.00	3	60.00

Table No. 13

Showing the response over significant level. (Frequency of micturition)

Statistical calculation is made, the response over significant level in frequency of micturition shows 1st week 30.30 %, 2nd week 51.51 % and 3rd week 81.81 %.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.33	0.23	30.30	0.1	0.30	0.55	1.79	< 0.1 & > 0.05	NS
2	0.33	0.16	51.51	0.17	0.45	0.08	1.98	< 0.1 & > 0.05	NS
3	0.33	0.06	81.81	0.27	0.63	0.11	2.28	< 0.05 & > 0.2	S

Table No. 14

Showing relief for burning micturition.

Out of 11 patients of burning micturition, after 1st week of treatment, 3 got relief, 3 no change, 5 got improved. After 2nd week of treatment, 4 no change, 2 improved and 7 got relief and after 3rd week 1 improved and 10 cured.

Sl. No	Burning micturition	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	2	18.18	0	0	0	0	0	0
2	Moderate	6	54.54	4	36.36	2	18.18	1	9.09
3	Mild	3	27.27	4	36.36	2	18.18	0	0
4	No	0	0	3	27.27	7	63.63	10	90.90

Table No.15

Showing the response over significant level. (Burning micturition)

Statistical calculation is made, the response over significant level in burning micturition shows 1st week 42.85 %, 2nd week 71.42 % and 3rd week 91.42 %.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.7	0.4	42.85	0.3	0.45	0.08	3.52	< 0.01 & > 0.001	S
2	0.7	0.2	71.42	0.5	0.77	0.14	3.52	< 0.01 & > 0.001	S
3	0.7	0.06	91.42	0.64	0.92	0.16	3.73	< 0.001 & > 0.001	HS

Table No. 16
Showing relief in fever.

Out of 9 patients of fever after 1st week of treatment, 2 improved, 4 no change, 3 got relief. After 2nd week, 2 improved, 2 no change, 5 got relief ; 3rd week, 2 improved, 7 got relief.

Sl. No	Fever	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	3	33.33	1	11.11	0	0	0	0
2	Moderate	1	11.11	2	22.22	2	22.22	2	22.22
3	Mild	5	55.55	3	33.33	2	22.22	0	0
4	No	0	0	3	33.33	5	55.55	7	77.77

Table No. 17
Showing the response over significant level (Fever)

Statistical calculation is made the response over significant level in fever, shows 1st week 37.73 %, 2nd week 62.26 % and 3rd week 75.47 %.

Week	BT	AT	%	MD	SD	SE	T	P	Remark
1	0.53	0.33	37.73	0.2	0.48	0.08	2.26	< 0.05 & > 0.02	S
2	0.53	0.2	62.26	0.33	0.54	0.10	3.33	< 0.01 & > 0.001	S
3	0.53	0.13	75.47	0.4	0.72	0.13	3.03	< 0.01 & > 0.001	S

Table No. 18
Showing relief in vomiting.

Out of 9 patients of vomiting, after 1st week of treatment 3 no change, 3 got relief and 3 improved. After 2nd week, 2 improved, 2 no change, 5 got relief. After 3rd week 1 improved, 1 no change, 7 got relief.

Sl. No	Vomiting	BT	% of relief	1 st week	%	2 nd week	%	3 rd week	%
1	Severe	0	0	0	0	0	0	0	0
2	Moderate	2	22.22	1	11.11	0	0	0	0
3	Mild	7	77.77	4	44.44	2	22.22	0	0
4	No	0	0	4	44.44	7	77.77	9	100

Table No. 19

Showing the response over significant level (Vomiting)

Statistical calculation is made, the response over significant in vomiting shows. 1st week 43.39 %, 2nd week 62.26 %, 3rd week 75.47 %.

Table No. 20 Showing result of total cases.

Sl.No	Results	Total Cases	
		No.	%
1	Cured	23	76.66
2	Improved	06	20.00
3	No Change	01	3.33

DISCUSSION

UTI is one of the commonest problems among pregnant women. The prevalence of bacteriuria throughout pregnancy ranges from 2 % - 8 %. UTI is common among women of all ages and is frequently seen in a gynecologist's or an obstetrician's daily practice. The burden of the disease on patient as well as the medical system is huge. It is important for us to put more efforts and research priorities to areas of uncertainty, especially those concerning the pathogenesis of UTI, better preventive strategies for recurrent UTI and the treatment of uncomplicated and complicated bacterial infections, which are becoming increasingly antibiotic resistant.

Discussion is done on basis of literary as well as clinical works. Discussions are made with respect to each

relevant topic under the broad heading of .

- Disease
- Drug
- Observation and results

DISCUSSION ON DRUG

Thrinapanchamulas have the following *rasa, guna, veerya, vipakas*. *Madhura rasa* :

Effect on *doshas* - *Vata-pitta shamaka, kapha vardhaka*. Action – *Dhatu vardhana, ojo vardhana, indriya prasadana, ayushya, balya, varnya, vishahara, trishna prasamana, daha prasamana, jeevaniya, brimhaniya, sandhana kara, stanya janana*, etc.,

Kashaya rasa : Effect on *doshas* - *Pitta –kapha hara, vata vardhaka*. Action – *Samsamana, sangrahi, sandhana kara, ropana, soshana, sthambhana, rakta prasamana, lekshana, twachya, ama sandharana, vishtambhi, jwarahara, chedana* etc.,

Tikta rasa :Effect on *doshas* – *Pitta-*

kapha samaka, vata vardhaka. Action - *Visha hara, krimihara, daha prasamana, kandu hara, trishna prasamana, kustaghna, lekhana, stanya sodhana, dhatu soshana*.

GUNAS

Laghu guna:-

It acts as *kapha hara & vata vardhaka* (reduces *kapha* and aggravates *vata*) it reduces the tissue weights (*langhana*) it reduces *malas* (decrease quantity of excreta) and clears the channels of the body (*sroto-sodhana*) it under goes *laghu paka* (*katu* or *amla vipaka*). *Vamana, lekhana, pachana* etc., are the pharmacological actions exerted by *laghu guna*. It improves the digestion being easily digestible. On the psyche (*manas*) it has positive effects by improving activeness and providing inspiration. **Guru guna :-** *Guru guna* acts as *vata hara* and *kapha vardhaka*. It nourishes all the *dhatu*s (*brihmana*) it increases *mala* and coats *the srotas* (*srotopalepa*) *virechana, balya, brimhana, vrishya* etc., **Snigdha guna :-** It subsides *vata* and aggravates *kapha* ; provides tonicity to tissues, regularize the movement of *malas* ; acts as *vajikarana*. *Balya, vrishya, snehana,*

varnya etc., are the pharmacological action of *snigdha guna*.

Madhura vipaka :-

Properties - *Snigdha, guru*.

Effect on *doshas* - enhances *kapha*, decreases *vata-pitta*.

Effect on *dhatu* - Improve *dhatu*s, *sukrala*.

Effect on *mala* - Increases the quantity of stools and urine.

Seeta virya :-

Effect on *doshas* - *Pitta hara, vata-kapha vardhaka*.

Systemic effects - *Prahladana, vishyandana, sthirikarana, prasadana, kledana, jivaniya, sthambhana, rakta-prasadana balyam*.

Because of these *rasa, virya, vipaka, guna*, the drugs have showed effective results in *garbhini* suffering from urinary disorders.

OBSERVATION AND RESULTS

DISCUSSION ON OBSERVATION.

Age :- Out of 30 patients, 11 patients fall under 22-24 age group. 8 under 19-21, 5 under 25-27, as in these age groups most of them were primi gravida and had urinary problems. **Occupation :-** Out of 30 patients, 14 patients are house-wives,

3 employed and 13 labourers. Due to unhygienic and laborious work, housewives, labourers had more urinary problems. **Habits** :- Habits are not a main contributing factor for the urinary problems. **Socio-economic status** :- Out of 30 patients, 16 fall under lower socio-economic status. This shows that in lower-class people urinary problems are seen much more.

Gravid status

Out of 30 patients, 21 fall under primi gravida and 9 in multi para. So in primi urinary problems are seen more.

Habitat Out of 30 patients, 21 fall under rural and 9 urban. Due to lack of hygiene the rural people suffer from urinary problems.

Presenting complaints

Clinical observations were supra-public discomfort, dysuria, burning micturition, hematuria, frequency of micturition. Burning micutrition is the common symptom which is present in most of the patients.

Urine culture

In 16 cases E-coli growth was seen and organisms like klebsiella and proteus in one case each. After 21 days of treatment there is reduction in the colonies.

Associated complaints

In all the cases there is complete relief from vomiting, fever.

DISCUSSION ON RESULTS.

Discussion on subjective criteria : Response in supra-public discomfort

None of the patients had severe supra-public discomfort. In two patients supra-pubic discomfort was subsided with in 14 days of commencement of intervention, whereas the moderate discomfort was reduced to mild within 7 days. The mean difference in 1st week is 0.07 ± 53.84 . Reduction of supra-pubic discomfort was observed at the end of 1st week. The mean difference in 2nd week is 0.13 ± 100 and the mean difference in 3rd week 0.13 ± 100 , which is non-significant (< 0.2 & > 0.1).

Dysuria :- Only 9 patients had this complaint before the commencement of intervention. This was absent by the end of treatment in 7 subjects and from 3 moderate cases, 2 had mild symptom. The drug had shown significant action ($P < 0.01$ and > 0.001) over dysuria. Mean difference in 1st week was 0.1 ± 25 and reduction of pain was observed. The mean difference in 2nd week is 0.24 ± 0.16

and the mean difference in 3rd week is 0.34 ± 85.00 .

Haematuria :-Out of 30 patients 3 had haematuria. Out of 3 one had plenty of RBCs and remaining 2 had in between 3 – 5. Only one patient responded to treatment by the end of the treatment which shows non-significant action of drug ($P < 0.2$ and < 0.1). The mean difference in 1st week is 0.07 ± 35 . The mean difference in 2nd week is 0.07 ± 35 and the mean difference in 3rd week is 0.07 ± 35 .

Frequency of micturition. Out of 5 patients of this symptom, only one had severe degree and 3 had moderate and one had mild symptoms. By the end of the treatment 3 got relief and 2 had mild symptoms which shows significant actions of the drug ($P < 0.05$ and > 0.2) on frequency of micturition. Mean difference in 1st week is 0.1 ± 30.30 and in 2nd week it is 0.17 ± 51.51 and in 3rd week it is 0.27 ± 81.81 .

Burning micturition :Out of 11 patients, by the end of the treatment, 10 got complete relief which shows highly significant action of the drug ($P < 0.01$ and 0.001) on burning

micturition with mean difference in 1st week at 0.3 ± 42.25 , in 2nd week at 0.5 ± 71.42 and in 3rd week at 0.64 ± 91.42 .

Fever. Out of 9 patients, 3 had severe degree of fever, by the end of the treatment none were found to have fever. 7 got complete relief which shows significant action of the drug ($P < 0.05$ and > 0.02) on fever, with mean difference in 1st week at 0.2 ± 37.73 , in 2nd week at 0.33 ± 62.26 , in 3rd week at 0.4 ± 75.47 .

Vomiting: Out of 9 patients, by the end of the treatment all the 9 got complete relief, which shows significant action of the drug ($P < 0.1$ and > 0.001) on vomiting, with mean difference in 1st week at 0.20 ± 43.39 , in 2nd week at 0.33 ± 62.26 and in 3rd week at 0.4 ± 75.47 .

Anaemia: Out of 12 patients, by the end of the treatment there was marked improvement in Hb % in 9 cases ; one had moderate level of Hb % and 2 had mild level of Hb % which shows highly significant action of drug ($P < 0.001$) on anaemia, with mean difference in 1st week at 0.13 ± 17.10 , in 2nd week at 0.36 ± 47.36 , in 3rd week at 0.63 ± 82.89 .

On objective criteria

The normal P^H of urine varies between 6.5 and 7.2 which depends on the diet and other factors. Urine P^H plays an important role in the determination of either renal tubular acidosis, which may cause a P^H below 5.5 (acidic urine) and P^H more than 8 (alkaline urine). Among the 30 patients studied, 18 patients showed urine P^H of 7, 9 patients showed urine P^H of 6 where as 2 patients showed urine P^H of 8 before the administration of the drug. After treatment the urine P^H was maintained at 9 in all subjects. It shows that the yoga along with the diet restrictions might have maintained the urine P^H and that *trinapanchamula* may act in alkaline P^H.

CONCLUSION

Urinary tract infections are a common problem faced by a physician. The advanced modern antibiotic therapies have not yet fully controlled U.T.I and we need more effective drugs without development of tolerance. In this study *Thrinapanchamulam* was tried in the case of urinary disorder and uniform results were obtained. During this study no untoward reaction and toxicity is observed. It provides a safe alternative in comparison to other

antibiotics. The definite antimicrobial activity of this drug is not established till now, but it can eliminate the urinary complications and it may be due to their diuretic property or anti inflammatory property or *Krimighna* property or by improving the urinary function. However it requires elaborate study of the used drug in respect of each and every ingredients and its microbiological action. Thus it is concluded that it is an ideal drug for urinary problems and in recurring cases it may be useful.

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