

EFFECT OF *SHATAVARYADI GHANVATI* AND *BRIHAT DHATRYADI GHANVATI* IN THE MANAGEMENT OF *GARBHINI MUTRAKRICCHRA* (LOWER U.T.I)

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ABSTRACT

UTIs are among the most common bacterial infections in women. It also occurs frequently during gestation because Pregnancy is common cause of obstructive uropathy. During pregnancy this lower infection ascend to the upper tract and cause acute pyelonephritis and affects pregnancy outcomes. Acute cystitis is usually severely symptomatic and this type of lower UTI is recognized and adequately treated, problem lies in the patient who has asymptomatic bacteriuria, which needs to be recognized and treated to prevent upper urinary diseases. Though *Mutrakricchra* has not been mentioned in *Garbhini*, but in routine antenatal checkups, the sign and symptoms of this disease are generally present. The *Chikitsa* of *Mutraroga* during pregnancy is mentioned by *Acharya Kashyap*. Present study was conducted on 23 ante natal patients having sign and symptoms of *Mutrakricchra*, randomly divided in two groups group A (*Shatavaryadi ghanvati*) and Group B (*Brihat dhatryadi ghanvati*). In Both groups therapy showed statistically highly significant results ($P < 0.001$) Both the *Ghanvati* can be used effectively in infections and delaying the recurrence.

Keywords: *Brihat dhatryadi ghanvati*, *Mutrakricchra*, Lower urinary tract infection.

INTRODUCTION

In recent years there has been considerable concern regarding the maternal health and nutritional status in the developing countries especially in India where morbidity rates for both mother and infants have been consistently higher. In the present era though medical

facilities have been updated and health care services have been sophisticated, even then mortality and morbidity rates have been increased especially in the mother and child health faculty. It can be linked to the deranged

lifestyle, eating habits, growing pollution as well as the compromised immunity.

In fact there are some infections which though appear to be transient, but if neglected can lead to serious complications. One such infection which makes the pregnancy more complicated, increasing morbidity and mortality is U.T.I. Though it does not directly affect the pregnancy but its complications can put the mother in a critical condition. In most cases the ascending bacterial infection affects only the lower urinary tract (asymptomatic bacteriuria, acute cystitis) but during pregnancy as many as 25-40 % of this lower infections ascend to the upper tract and cause acute pyelonephritis. The incidence during pregnancy varies from 2 to 10 % (Asymptomatic Bacteriuria) and depends on parity, race, and socioeconomic status. About 10% of women develop bacteremia (transient presence of bacteria in blood) following acute pyelonephritis. The American Academy Of Pediatrics and the American college of Obstetricians and Gynecologists (2002) recommend routine screening for bacteriuria at the first prenatal visit.

Urinary stasis is an important component of the pathophysiologic mechanism responsible for UTI in pregnancy. Ureteral dilatation begins during the 7th week and progresses until term. The dilated collecting system may hold up to 200 ml of urine, making it an ideal reservoir for UTI. A decreased concentrating ability of the kidneys may cause the antibacterial activity of the urine to be diminished. The glycosuria and aminoaciduria of pregnancy provide an ideal culture medium for microorganisms.

Organisms that cause urinary infections are E-coli (70%), Klebsiella Pneumoniae (10%),

Proteus pseudomonas, Staphylococcus aureus group.

AIMS AND OBJECTS

- To study the aetiopathogenesis of *Mutrakricchra* in pregnancy as per *Ayurveda* and Modern concept.
- To assess the efficacy of drugs in relieving symptoms of *Mutrakricchra*.
- To compare the efficacy of *Shatavaryadi Ghanvati* and *Brihat Dhatryadi Ghanvati*.
- To assess the recurrence of symptoms.

MATERIALS AND METHODS

(I) Selection criteria of the patients:

Inclusion Criteria:

- Pregnant women having classical signs and symptoms of *Mutrakricchra* i.e. UTI as per the prepared Proforma will be selected for the present study.
- Patients will be selected randomly for the study.
- Investigation showing Pyuria(pus cells in urine) as well as Bacteriuria (urine culture test showing isolated bacteria).

Exclusion Criteria

- Any complication during pregnancy like thyroid disorders and cardiac illness etc
- Diabetes, Hypertension
- Kidney related disorders including calculus.

Investigations

- Blood - Hb, TC, DC, ESR, BGRh
- Urine–Routine and Microscopic

Bacteriological- Urine Culture test (By Mac' conckey Agar Media)

Table 1: Grouping and posology

Group	A	B	C
Drug	<i>ShatavaryadiGhanvati</i>	<i>BrihatDhatryadiGhanvati</i>	Placebo
Dose	2 tab in BD dose (each tab of 500 mg)	2 tab in BD dose (each tab of 500 mg)	1 cap in BD dose (each cap of 500 mg)
Duration	1 month	1 month	1 month
Anupana	Plain water	Sitajala	Plain water

Follow up - It was for 45 days

(II) Selection of the drugs for the study:

For the present study *ShatavaryadiGhanvati*, *BrihatDhatryadiGhanvati* and Placebo (Wheat flour) capsules were selected for internal administration.

(A) Test Group (A) (Oral): *ShatavaryadiGhanvati*

In the present study *ShatavaryadiGhanvati* was taken in Group A. *ShatavaryadiGhanvati* comprises of Shatavari (*Asparagus racemosus*), Darbhampoola (*Imperetacylindrica*), Yashtimadhu (*Glycyrrhiza glabra*), Moorva (*Marsdeniastenacissima*), Pashanabheda (*Bergenia ligulata*), Ushira (*Vetiveriazizanioides*), Kataka (*Strychnos potatorum*). All the drugs were taken in equal amount¹⁻²²

(B) Test Group (B) (Oral): *BrihatDhatryadiGhanvati*

BrihatDhatryadiGhanvati was taken for group B. The contains of this *Ghanvati* are *Amalaki* (*Emblicofficinalis*), *Draksha* (*Vitisvinifera*), *Yashtimadhu* (*Glycyrrhizaglabra*), *Vidarikanda* (*Pueraria tuberosa*), *Gokshura* (*Tribulus terrestris*), *Darbhampoola* (*Imperetacylindrica*), *Ikshumoola* (*Saccharumofficinarum*), *Haritaki* (*Terminaliachebula*). All the drugs were taken in equal amount.

(C) Control Group (C)

Drug : Placebo Capsules

Content: Roasted wheat flour

Both the drugs were selected as they have *Mutravirecheeniya* properties as well as due to their *Rasayana*, *Balya*, *Brimhana*, *Snehana*, *Jivaniya* properties, increase Oja also. Pharmacologically, the drug has antibacterial and diuretic activity and also Immunomodulatory, Cytoprotective and Antioxidant property which helps in increasing the immunity. In the original text *Kwath* form is mentioned for both the drug but in present study it is taken in *Ghanvati* form. Preparation of drug was done in the pharmacy of I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar.

(III) Criteria for assessment:

The improvements of the patients were assessed on the basis of relief in sign and symptoms of the disease and improvement in pathological reports of urine (routine, microscopic), urine culture and blood. All the sign and symptoms were given scoring according to the severity, to assess the effect of the drug objectively.

Criteria for assessment of overall effect of therapy:

- (1) Complete relief: 100% relief in the sign and symptoms with significant improvement in urine reports.
- (2) Marked improvement: more than 75% relief and significant improvement in urine reports.
- (3) Moderate improvement: more than 50% relief in the complaints of patient.
- (4) Improved: up to 50% relief of the complaints of the patient.

(5) Unchanged: less than 25% relief in the complaints of the patients was considered as unchanged condition.

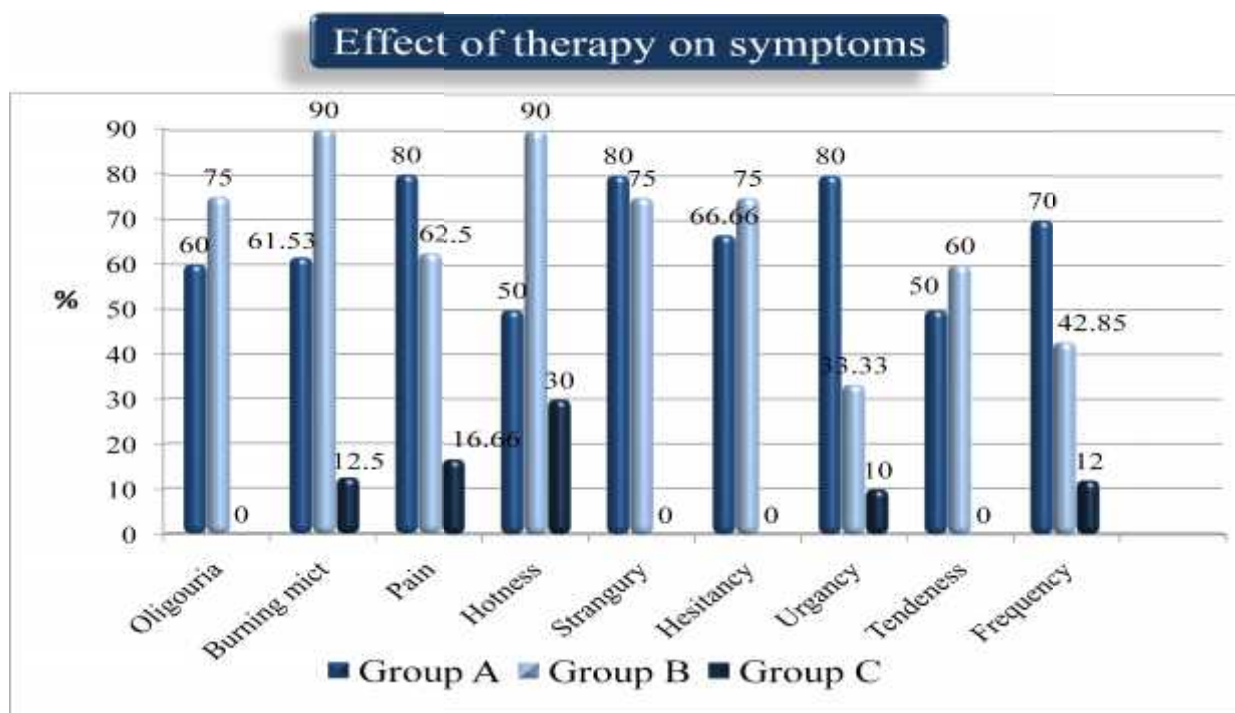
Statistical analysis:

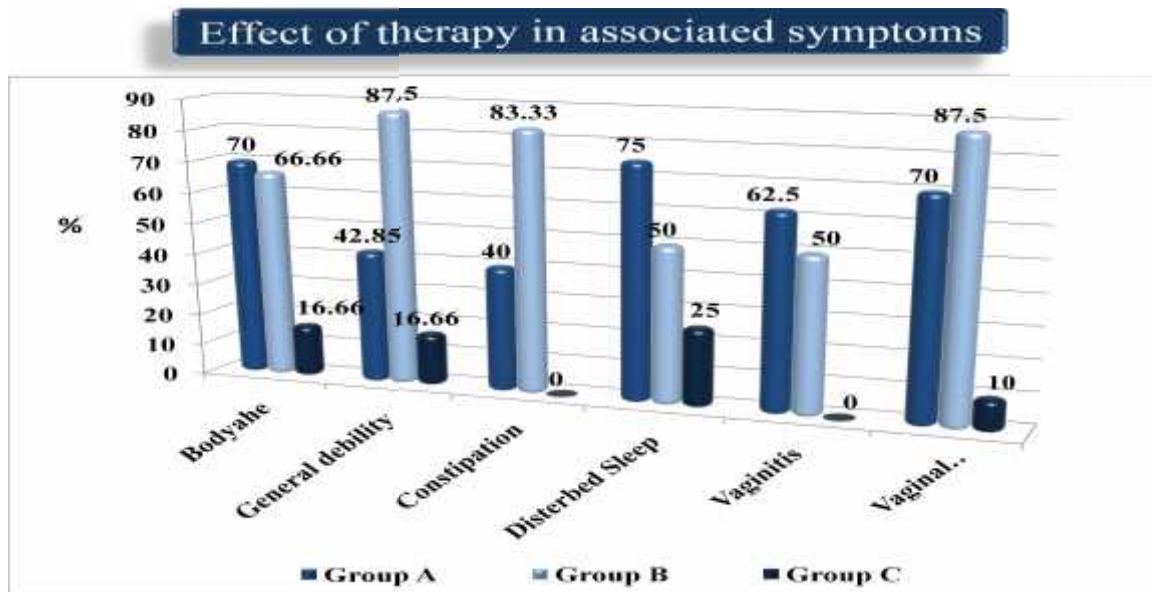
The information gathered on the basis of observations was subjected to statistical analysis and students paired ‘t’ test was applied for it. The results were interpreted at P < 0.05, P < 0.01 and P < 0.001 significance levels.

OBSERVATIONS AND RESULTS

Table 2: Distribution of patients in groups

Group	Completed	LAMA	Total
A (Trial)	7	1	8
B (Trial)	6	2	8
C (cap placebo)	6	1	7
Total	19	4	23





Maximum number of patients i.e. 60.87% belonged to age group 21-25 years, 43.48% of patients were of 1st trimester and primiparus each, 86.96% patients were Hindu, 47.83% patients belonged to rural area, 39.13% patients were from lower middle class. Un-education in 34.78%, 86.96% were housewives, 60.87% patients were vegetarian, 86.96% patients were having *Katu* rasa and 52.17% having *Amla* rasa dominant *Ahar* and 47.83% patients were having moderate appetite, 73.91% of patients had regular *Malapravritti* with 43.48% patients complained of hard stool, 39.13% were having frequency of micturition as 9-12 times / day and 17.39% having 12 times / day frequency. 60.87% of patients having 1-2 time *Mutrpravritti* at night. 47.83% of patients complained of disturbed sleep. 60.77% of patients had sexual activity on 1-2 time?? / 15 days.

Among the *Rasavahasrotodushtilakshanas*, maximum patients complained of *Shrama* (65.22%), *Trishna* (60.77%) and *Shabdasa-hishnuta* (17.39%). In *Mutravahasrotodushti-*

lakshanas maximum patients complained of *Alpamalpa* (65.22%), *Atibadh* (4.35%) and *Sashula* (47.83%), *Atisrishta* (43.48%). The main symptoms of *Mutrakricchra* are as Hotness (*Ushnatvam*) 73.91%, Burning Micturition (*Mutradaha*) 65.21%, Increased frequency (*Punah-punah*) 56.52%, Urgency (*Vegasahyatva*) 52.17%, Dysuria (*Vedana*) 47.82%, Hesitancy (*Sakshobha*) 39.13%, Strangury (*Mutrasanga*) 26.08%, Oliguria (*Alpamutrata*) 30.43%. 17.39% of patients were asymptomatic, 82.61% of patients were symptomatic. The general symptoms of *Mutrakricchra* are as, General debility (*Daurbalya*) 60.86%, Vaginal discharge (*Yonirava*) 56.52%, Body ache (*Dehavedana*) 52.17%, Disturbed sleep (*Nidrabhanga*) 21.73%; Anorexia 34.78% (*Kshudhanasha*) Constipation (*Malavarodha*) 30.43%. The organism isolated in urine culture is as: *E. coli* 47.83%, Coagulase -ve *Staphylococcus* and *Klebsiella* each 17.39%, *Pseudomonas* and Coagulase +ve *Staphylococcus* 8.70%. 56.52% were having chronicity of 1-4 weeks, 30.43% were having 1-12

months and 13.04% were having <1 week, 26.09% patients had past history of UTI.

In group A statistically highly significant result was found in Pain (80%), Hotness of urine (50%), frequency of micturation (70%), Bodyache (70%), General debility (42.85%), Vaginal discharge (70%), U.Alb (62.5%), urine culture (71.42%). Statistically significant result was found in burning micturation (61.53%), hesitancy (66.66%), and urgency (80%). Statistically insignificant result was found in tenderness (50%), Anorexia (33.33%), constipation (40%), Disturbed sleep (75%), urine pus cells (17.64%).

In group B statistically highly significant result was found in oligouria (75%), Burning micturation (90%), pain(62.5%), Hotness of

urine(90%), hesitancy (75%), tenderness (60%), general debility (87.5%), constipation (83.33%), vaginal discharge (87.5%), urine pus cells (42.11%), urine culture (66.67%). Statistically significant result was found in bodyache (66.66%), Vaginitis (50%), TLC (14.75%). While insignificant result was seen in strangury (75%), anorexia (25%).

In group C statistically highly significant result was not found. Significant result in Hotness of urine (30%). Statistically insignificant result was found in burning micturation (12.5%), pain (16.66%), urgency (10%), frequency (12.5%), bodyache (16.66%), General debility (16.66%), Anorexia (33.33%), disturbed sleep (25%), Vaginal discharge(10%), urine Puscells (16.67%), Urine. Albumin (50%), Urine Culture (0%)

Table 3: Total Effect of Therapy

Group	No	Mean		%	x	S.D	S.E	t	p
		B.T	A.T						
A	7	26.86	12.29	54.26	14.57	3.41	1.29	11.31	<0.001
B	6	26.5	10.33	61.00	16.67	3.97	1.62	9.97	<0.001
C	6	18.83	14.16	24.77	4.67	2.33	0.95	4.88	<0.01

Table 4: Overall Total Effect Of Therapy

Effects	Group A		Group B		Group C	
	No. of Pts	%	No. of Pts	%	No. of Pts	%
Complete Remission (100%)	0	0	0	0	0	0
Marked Improvement (>75%)	1	14.28	1	16.66	0	-
Moderate Improvement (>50%)	3	42.85	4	66.66	0	-
Mild Improvement (upto50%)	3	42.85	1	16.66	4	66.67
Unchanged (<25%)	0	-	0	-	2	33.33

DISCUSSION

There are no direct references available for *GarbhiniMutrakricchra* in the Ayurvedic classics. But The *Chikitsa* of *Mutraroga* during pregnancy is mentioned by *AcharyaKashyap* (*Khil* 10/144) and *AcharyaHarita* (Ha. S. Tri.

51/11). They might have considered it as a symptom not a disease. In routine antenatal checkups, the sign and symptoms of this disease are generally present. An attempt has been made to study *Mutrakricchra W.S.R* to Lower U.T.I. in pregnancy.

In Ayurveda there are no direct references in *Brihatayi* regarding *Krimi* which are responsible for urinary tract infection. But in *Harita Samhita* among the type of *Bahya Krimi*, “*MutrotpannaVartula*” is mentioned. So, it can be consider as a micro organisms for U.T.I. indicating of bacterial origin of *Mutrakricchra*.

In this study total 86.95 % patients were in the age group 15-30 years. The age group 15-30 years (middle age) is the *Paithika Kala* of life (C. S. Vi. 8/122; A. H.Su. 1/8), so patients are prone to *Mutrakricchra*, as *Pitta* is also the dominant *Dosha* in manifestation of *Mutrakricchra* (K. S. Mut. Chi.) Generally, urinary tract infections are more common in the age of 15-30 years, increasing by 1% in each subsequent decade, which is supported by the findings of the present study. 43.48 % were nulliparous, while 17.39 % were primi parous. The incidence of Asymptomatic Bacteriuria is higher in Primigravida. This difference can be explained on the basis that most of the patients registered randomly for the study were nulliparous during the study period. Since their active married life was <1 year, coitus may be the predisposing factor.

47.83 % were from rural area. 34.78 % of patients were from urban area and 17.39% were from slum area While Poor hygienic condition is one of the etiological factor of *Mutrakricchra*. Poverty, poor hygiene and bad sanitation are also the factors for infection.

Increased frequency was found in 56.52% of patients. It is due to two factors:

1. Pressure upon bladder by gravid uterus.
2. Inflammation of bladder mucosa markedly decreases its pain threshold, so that it takes fewer stimuli to initiate the desire to void.

Burning micturation was found in 65.21% of patients.

1. Milder degrees of pain is described as burning sensation.
2. It is usually secondary to inflammation of the lower urinary tract.

Maximum numbers of patients i.e. 60.87% were of *Vata-Pitta Prakriti*, *Vata-Pitta Dosha* are responsible in the pathogenesis of *Mutrakricchra*. *Bala* is also less in the persons of this *Prakriti* during pregnancy; it may lead to increased incidence of disease in this *Prakriti*. *Shrama* was found in 65.22 %, *Trishna* 60.87%, *Shabdahishnuta* and *Hridapida* in 50% of each patient. The *Rasa Dhatu* nourishes the body and *Rakta Dhatu*. These *Lakshanas* of *Rasa Kshaya* are of the *Garbhini* and also related to the pathogenesis of *Mutrakricchra*. *Jihvashosa* was found in 56.52% while *Talukanthshosha* was found in 34.78 % of patients. Because of *ApaDhatuDushti*, there may be manifestation of these types of symptoms.

CONCLUSION

- On comparing the effect of two Ghanvati it is concluded that *Brihat Dhatryadi Ghanvati* provided better relief than *Shatavaryadi Ghanvati*.
- In Both groups therapy showed statistically highly significant results.
- Both the Ghanvati can be used effectively in infections and delaying the recurrence.
- The dose and duration of *Brihat Dhatryadi Ghanvati* can be increased to see the results in chronicity.
- This study showed that 17.39% of the pregnant women examined had a positive urine culture without any symptoms of UTI. Hence, it is important that pregnant

women are screened for asymptomatic bacteriuria at the first antenatal visit.

- This study is carried out in a small sample. For better Exploration study in Large sample is necessary.

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