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A comparative study of effect of *Chandraprabha Vati* & *Gudamalaka Yoga* in *Pittaja Mutrakruchra* w.s.r. to Lower UTI

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ABSTRACT

Urinary tract infections are common causes of infections which lead to various morbidities and also to mortality in severe neglected cases. With the presentation of symptoms it is closely related to *Mutrakruchra* in Ayurveda. The major problem with the antibiotics are resistance of bacteria and high chances of recurrence. *Chandraprabha Vati* and *Gudamalaka Yoga* are indicated drugs in *Mutrakruchra* condition. This study evaluates the efficacy between the two drugs in the management of Urinary tract infections. It was found that both *Chandraprabha Vati* and *Gudamalaka Yoga* are very effective in the management of Urinary tract infections.

Key words: *Urinary tract infection, Chandraprabha Vati, Gudamalaka Yoga.*

INTRODUCTION

The urinary tract infection is the commonest clinical condition seen in urological practice. It is an inflammatory response of urothelium to bacterial invasion which is usually seen as bacteriuria and pyuria. It is well treated with antimicrobial drugs based on their sensitivity. But, we can see that the use of antibiotics is limited as the infective organism develops resistance and side effects are also seen very commonly.

Improperly managed lower UTI cases lead to pyelonephritis which may lead to chronic renal failure.

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Considering the above problem, present study was undertaken to explore safe & satisfactory treatment of urinary tract infection.

In Ayurveda, various urological conditions and their management have been described under the heading of *Mutrakruchra*, *Mutraghata*, *Asmari* etc. A number of Ayurvedic drugs have been found effective in the treatment of urinary tract infections. *Chandraprabha Vati*[1] is already a well known drug in treating *Mutrakruchra* like conditions. Cakradatta has mentioned about *Gudamalaka Yoga* in the treatment of *Pittaja Mutrakruchra*.[2]

So the present study was designed to compare the efficacy of *Chandraprabha Vati* and *Gudamalaka Yoga* in cases of *Pittaja Mutrakruchra*.

AIM AND OBJECTIVE

To compare and analyze the effect of two drugs, *Chandraprabha Vati* and *Gudamalaka Yoga* in Urinary tract infections.

MATERIALS AND METHODS

The study protocol and study related documents were reviewed and approved by Sri Sri Institutional Ethical Committee at Sri Sri College of Ayurvedic Science and

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Research Bangalore, Karnataka, on 12th July 2016 with No.15/2016. The clinical trial is registered on Clinical Trial Registry, India (CTRI), vide registration number CTRI/2016/11/012662.

Source of data

- 60 patients suffering from *Pittaja Mutrakruchra* attending OPD and IPD of SSCASR&H, Bengaluru were selected for the study.
- Among them 30 patients each were randomly grouped, into group "A" and group "B" after fulfillment of diagnostic criteria.
- Group A was treated with *Chandraprabha Vati* & group B with *Gudamalaka Yoga.*

Method of collection of data

- Patients fulfilling the inclusion criteria, subjective & objective parameters were included for the study.
- Detailed history was recorded in specially designed case proforma.

a) Inclusion Criteria

Patients presenting with *Pratyatma Laxana* of *Pittaja Mutrakrucchra* above 16yrs of age with laboratory investigations showing either Pus cells/RBC'S/Epithelial cells in Urine sample were included.

b) Exclusion Criteria

Patients with anatomic & functional abnormalities of kidney, renal disease, renal calculi, BPH, STD's, Diabetes Mellitus were excluded.

c) Diagnostic Criteria

Subjective parameter

Patients complaining of *Krichramutrata* associated with one or more symptoms of *Pittaja Mutrakruchra* (UTI) was included.

Pittaja Mutrakruchra[3]	**UTI**[4]
Peeta Mutrata	Yellowish urine
Saruja Mutrata	Painful micturation
Sadaha Mutrata	Burning micturation
Sarakta Mutrata	Haematuria
Basti Shoola	Suprapubic pain
Muhurmuhur Mutrapravrutti	Frequency/urgency

Objective Parameter

- Urine Microscopy : Pus cells, RBC's, Epithelial cells
- Blood sample : Random Blood Sugar
- Urine microscopy was done before and after the treatment.

Follow up period: After 1 month

Method of Intervention

Chandraprabha Vati 250 mg, 1 TID, with *Ushna Jala*, after food for 14days and follow up 1month in group "A" & *Gudamalaka Yoga* 6gms BD before food for 14 days and follow up 1 month in group "B" was done.

RESULTS

The obtained data was analyzed statistically using the 'General Linear Model of Anova Test by using SPSS software

Group A: Treated with *Chandraprabha Vati*

Group B: Treated with *Gudamalaka Yoga*

Table 1: Age wise distribution of subjects

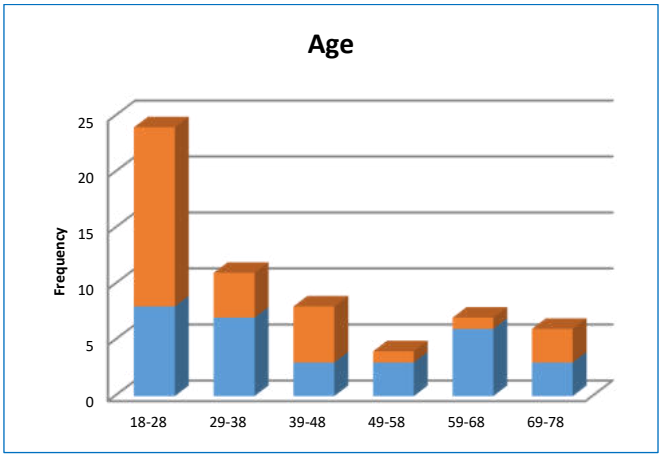

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Table 2: Gender wise distribution of subjects

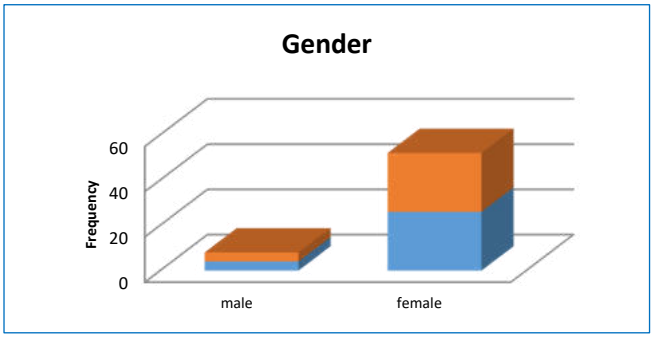


Table 3: Nidana Sevana[5]- distribution of subjects

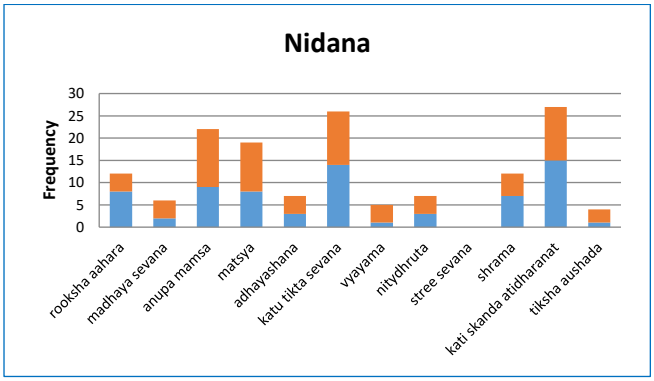
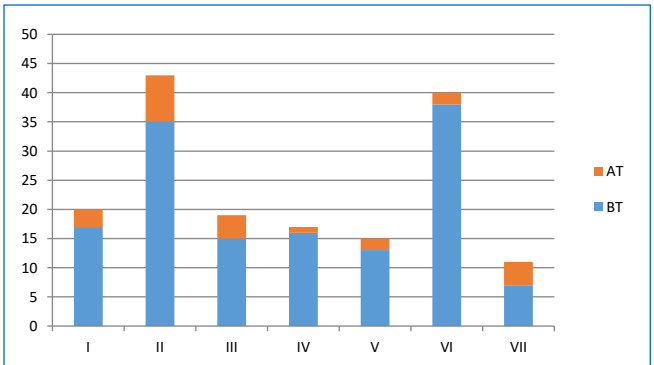
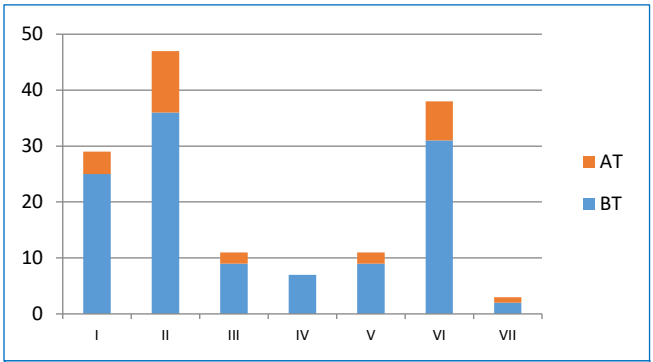


Table 4: Symptoms distribution of subjects (Group A)



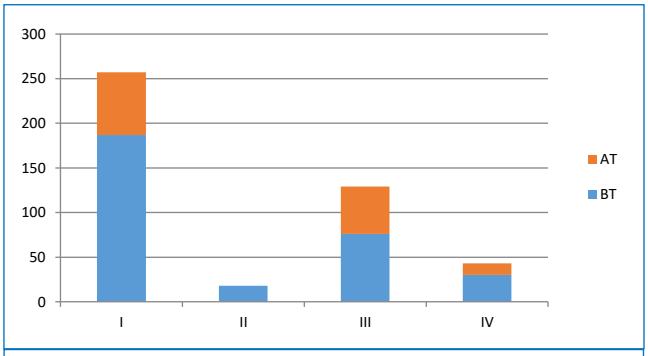
I-Painful micturation, II-Burning micturation, III- Suprapubic pain, IV-increased frequency of micturation, V-Urgency, VI-Abnormal colour of urine, VII-Strangury

Table 5: Symptoms distribution of subjects (Group B)



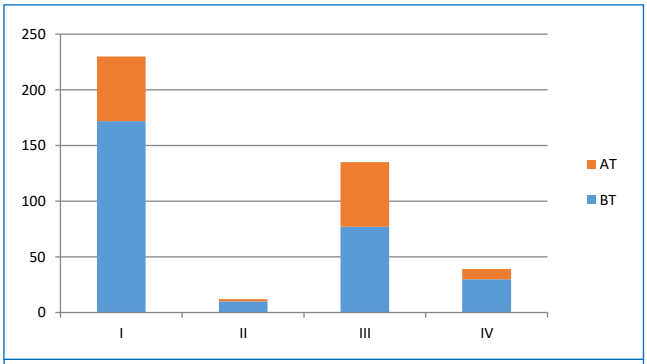
I-Painful micturation, II-Burning micturation, III- Suprapubic pain, IV-increased frequency of micturation, V-Urgency, VI-Abnormal colour of urine, VII-Strangury

Table 6: Lab Investigations (Group A)



I-Pus cells, II-RBC cells, III-Epithelial cells, IV- Urine culture

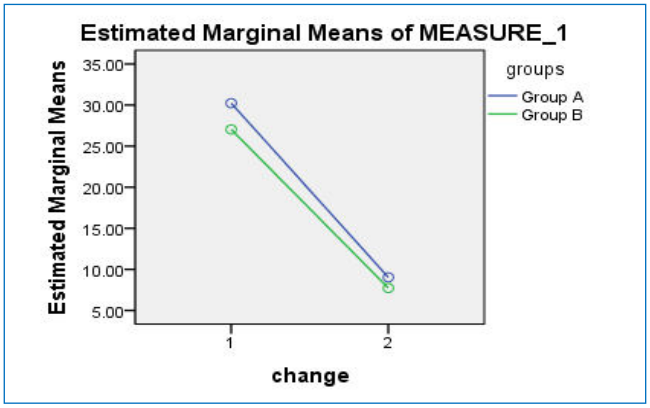
Table 7: Lab Investigations (Group B)



I-Pus cells, II-RBC cells, III-Epithelial cells, IV- Urine culture

Descriptive Statistics

	Groups	Mean	Std. Deviation	N
Pus cells BT	Group A	30.2333	17.21804	30
	Group B	27.0333	18.63531	30
	Total	28.6333	17.86101	60
Pus cells AT	Group A	9.0333	4.23844	30
	Group B	7.7333	3.23700	30
	Total	8.3833	3.79604	60



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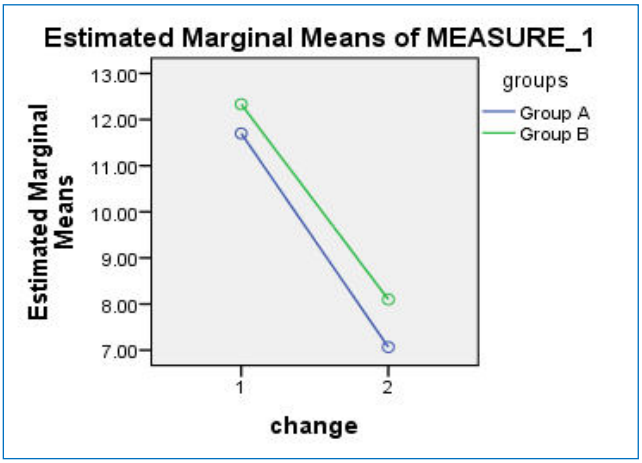
	Groups	Mean	Std. Deviation	N
RBC cells BT	Group A	2.2667	5.09180	30
	Group B	1.1333	2.33021	30
	Total	1.7000	3.96724	60
RBC cells AT	Group A	.2667	1.46059	30
	Group B	.0333	.18257	30
	Total	.1500	1.03866	60

	Groups	Mean	Std. Deviation	N
Epi cells BT	Group A	11.7000	3.50517	30
	Group B	12.3333	4.58132	30
	Total	12.0167	4.05677	60
Epi cells AT	Group A	7.0667	2.33317	30
	Group B	8.1000	2.89292	30
	Total	7.5833	2.65720	60



Urine Culture

Session * Urine culture * Groups Cross tabulation

Groups				Urine culture		Total
				-	+	
Group A	Session	BT	Count	0	30	30
			% within session	0.0%	100.0%	100.0%
		AT	Count	17	13	30
			% within session	56.7%	43.3%	100.0%
	Total		Count	17	43	60
			% within session	28.3%	71.7%	100.0%
Group B	Session	BT	Count	0	30	30
			% within session	0.0%	100.0%	100.0%
		AT	Count	21	9	30
			% within session	70.0%	30.0%	100.0%
	Total		Count	21	39	60
			% within session	35.0%	65.0%	100.0%

Chi-Square Tests

Groups		Value	df	Asymp. Sig. (2-sided)
Group A	Pearson Chi-Square	23.721	1	0.000
Group B	Pearson Chi-Square	32.308	1	0.000

OBSERVATIONS AND RESULTS

After statistical analysis, following are some of the findings

- Parameters like Age, Sex, Symptoms were recorded and reviewed.
- In this study, the minimum age of the patient was 18yrs and maximum age was 76yrs, more patients

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were seen in the age group of 26-35yrs i.e. 31.7% (19 patients).

- In this study, female patients were seen more i.e. 88.3% (53 patients).
- Nidanas like Rooksha Ahara, Madya Sevana, Anoopa Ahara, Matsya Sevana, Adhyashana, Katu, Tikta Sevana, Vyayama, Nitya Druta, Shrama, Kati Skanda Atidharanat, Teekshoushada are not statistically significant.

Symptoms

- Painful micturation in Group A is highly significant with 'p' value 0.001 and in Group B it is very highly significant with' p' value 0.000.
- Burning micturation between the Groups A and B is not statistically significant with 'p' value 0.000.
- Suprapubic pain in Group A is highly significant with 'p' value 0.017 and in Group B it is not significant with' p' value 0.106.
- Increased frequency of micturation in Group A and B is highly significant with 'p' value 0.007, 0.005 respectively.
- Urgency in Group A is significant with 'p' value 0.017 and in Group B is not significant with 'p' value 0.151.
- Abnormal urine is very highly significant in both the Groups A and B with 'p' value 0.00.
- Strangury is not statistically significant in both the groups A and B with 'p' value 0.317 and 0.554 respectively.

Investigations

- Pus cells: Pus cells are reduced before and after treatment, but it is not significant when compared between the Groups A and B with 'p' value 0.669.
- RBC cells: RBC cells are reduced before and after treatment, but it is not significant when compared between the Groups A and B with 'p' value 0.364.
- Epithelial cells: Epithelial cells are reduced before and after treatment, but it is not significant when compared between the Groups A and B with'p' value 0.667.
- Urine culture: It is very highly significant in both the Groups A and B with'p' value 0.000.

DISCUSSION

Symptoms related to UTI are mainly related with inflammation and infection of urinary bladder, urethra. Inflammation of urinary tract leads to increase of pus cells, RBC cells and epithelial cells in the urine sample.

Mode of action of drugs

Chandraprabha Vati is indicated in all types of *Mutrakruchra*. The drugs like *Shati, Vacha, Guduchi, Haridra, Pippali Mula, Chitrakamula, Dhanyaka, Chavya, Pippali, Gajapippali, Maricha, Shunti, Kshara Dwaya, Devadaru, Danti, Twak, Patra, Ela, Guggulu, Sita* and *Shilajatu* are *Vatahara* and *Ushna Virya* which reduces *Ruja, Muhurmuhur* and *Kruchra Mutrapravrutti.*

Due to its *Pittahara Guna* it reduces *Sadaha* and *Sarakta Mutrapravrutti* by Anti inflammatory and analgesic activities with drugs like, *Shati, Vacha, Musta, Guduchi, Devadaru, Vidanga, Haridra, Daruharidra, Chavya, Gajapippali, Trivruta, Danti, Guggulu, Pippali, Ela, Loha, Vanshalochana, Dhanyaka, Triphala* and *Shilajatu*.

Drugs of *Madhura Rasa* like, *Dhanyaka, Haritaki, Amalaki, Trivruta, Twak, Ela, Patra Vanshalochana, Chavya, Sita, Loha, Swarnamakshika* and *Lavana* pacify *Vata* and *Pitta*.

Tikta and *Kashaya Rasa* drugs like *Bhunimba, Guduchi, Daruharidra, Haritaki* and *Bibitaki*.. These by their *Mutrala* action increase the amount of urine, thereby decreasing the concentration of urine.

It is proved helpful on E.coli due to antiseptic and antibacterial or *Krimihara* properties of drugs like *Maricha, Devadaru, Vidanga, Haridra, Shunti, Daruharidra, Chitrakamula, Gajapippali, Twak, Patra, Ela* and *Triphala*.

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It has *Rasayana* effects with *Triphala, Daruharidra, Chitrakamula, Dhanyaka, Shilajatu, Swarnamakshika, Guggulu, Loha* and *Guduchi* which rectify the *Khavaigunya* in the *Mutravaha Srotas* when used for long duration.

Guggulu is well known for *Shothahara, Lekhana* and *Krimighna* properties to relieve the inflammatory pathology in UTI.

Swarnamakshika well known for *Mutrakruchra* improves the bladder tone.

Chandraprabha Vati which are *Vyadhi Pratyanika* by it *Shothahara*, Dahagna, *Mutrala* and *Shoolahara Gunas* reduces symptoms by pacifying *Vata* and *Pitta* and its rejuvenating properties help in improving *Khavaigunya* and tackle the disease.

Gudamalaka Yoga

The *Yoga* contains *Guda* and *Amalaki*.

Guda - *Guda* has propereties of *Mootrashodhana, Pittahara*.[7] It increases frequency of micturition with increased volume of urine which reduces bacterial colonization.

Amalaki - Due to *Tridosha Shamaka* and *Sheeta Veerya* properties of *Amalaki* may have *Shamaka* effect on the disease UTI. It enhances *Agni* and supports *Apana Vata* and helps to eliminate waste products from the body but does not over stimulate the urinary system.[8] Bhattacharya et.al. in a study on the hydroalcoholic extracts of three components of *Triphala* powder have shown strain specific anti bacterial activity against multi drug resistant uropathogenic bacteria and drug resistant does not interfere with the anti bacterial potential of *Triphala* components.[9]

Conclusion

Chandraprabha Vati is already a proven drug in cases of UTI, *Gudamalaka Yoga* has also shown statistically significant results. As the disease *Pittaja Mutrakruchra*, presents with *Sadaha, Sapeeta, Sarakta, Saruja, Muhurmuhu* and *Krucchra Mutrapravrutti,* the drugs like *Chandraprabha Vati* and *Gudamalaka Yoga* which are *Vyadhi Pratyanika* help in tackling the infections. Both the groups are statistically significant and are effective in the treatment of *Pittaja Mutrakruchra* and can be used effectively in urinary infections and delaying the recurrence.

Acknowledgement

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