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Research Article

Comparative study of *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* with Norfloxacin in the treatment of Urinary tract infection

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Abstract

Urinary tract infection occurs predominately in females, especially during child bearing age characterized by both microbial colonization of the urine and tissue invasion of any structure of the urinary tract, most commonly caused by Gram –ve bacteria i.e. *E.coli*, predisposed by various conditions like presence of foreign bodies e.g. calculi or catheter in the urinary tract, obstructive lesions in the urinary tract, pregnancy etc. This comparative study was carried out on 20 patients in each group A&B of either sex between 20-60 years. *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* were used in group A for 15 days and Norfloxacin 400mg in group B for 7 days. Promising results of Unani formulations *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* were found in relieving the symptoms after 15 days of treatment.

Keywords: Urinary tract infection, *Tadiya majra-e-baul, Qurs-e-kafoor, Sharbat-e-bazoori motadil*, Norfloxacin.

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INTRODUCTION:

Urinary tract infection refers to the presence in an appropriately collected mid-stream specimen of urine (MSU) of more than 10^5 colony forming units per ml of urine[1]. It is an inflammatory response of the urothelium to bacterial invasion that is usually associated with bacteriuria and pyuria.[2]

UTI occurs predominately in females especially during the child bearing age. Gram -ve bacteria are the most common responsible organism, although yeast, fungi and viruses may produce UTI.[3] Among Gram-ve bacteria, E.coli is the commonest causative organism of UTI.[4] Several factors predisposes the development of UTI, viz. failure of complete bladder emptying, anatomical disorders of the urinary tract, vesico-ureteric reflux, pregnancy, Diabetes mellitus, tumours, stones, and foreign bodies in the urinary tract [1, 5,6,7.]

Ancient Unani physicians do not described the urinary tract infection (tadiyamajra-e-baul) but they discussed this ailment under the headings of Hurqat-e-baul (Burning micturition), Taqtirul baul (Dribbling of urine) Baul-ud-dam (Haematuria) and Salisulbaul (incontinence of urine).

Rabban Tabri (810AD) has mentioned Taqtirul baul in the first Arabic text of Unani medicine "Firdausul Hikmat"[8].

Rhazes (865-925 AD) described Taqtirul baul ma hurqat in his text Al-Hawi-Fit-Tib[9].

Avicena (980-1037 AD) described Hurqat-e-baul in his treatise Canon of Medicine[10].

According Unani System of Medicine the following conditions causes Hurqat-e-baul, viz. auram/qurooh-e-majra-e-baul, dam/sadeed bairoon-e-majra-e-baul, Akhlat-e-haddah/harrah, su-e-mizaj-e-haar masana, unuq-e-masana ka hurqat-e-shadeeda, fuqdan ratubat ghuddah-e-mazi, ashab-e- abdan-e-mirariya[11].

The present study was carried out to compare the efficacy of pharmacopoeial Unani compound *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* with Norfloxacin to amelioration of symptoms and signs of UTI and also to find out an alternative treatment in Unani System of Medicine, which can be used over a prolong time without any adverse effect or serious complications.

MATERIAL METHODS:

This study was carried out on 40 selected patients from the OPD and IPD of the Post Graduate Department of Moalijat, Ajmal khan Tibbiya College, Aligarh Muslim University, Aligarh. All the 40 cases were randomly selected on the basis of inclusion and exclusion criteria. Over all 110 patients included in the study in which 40 cases left out because of having Diabetes mellitus, Hypertension, Benign Prostatic Hypertrophy. Further 30 cases did not returned back probably due to getting symptomatic relief. So the study was completed on 40 patients of either sex between the ages ranging from 20-60 years. They were divided into two groups, Group A and Group B, each having 20 patients.

Patients with clinical features, dysuria, increased frequency of micturition, burning micturition, fever with chills and rigor,

haematuria, were included in the study and the patients suffering from Diabetes Mellitus, Hypertension, BPH, presence of structural abnormality of urinary tract, established pregnancy, mentally ill patient and lactating mothers were excluded from the study.The diagnosis was made on the basis of history taking, examination, routine and microscopic examination, culture and sensitivity test of urine.

During this comparative study three drugs were used. Two of them were Unani medicine, *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* and third was Allopathic medicine Norfloxacin. *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* were procured from Dawakhana Tibbiya College, Aligarh Muslim University, Aligarh, which were prepared according to the formulation described in *Beyaz-e-Kabeer*,[12] and Norfloxacin was brought from the market in strips containing 10 tablets each 400 mg.

All the selected cases of Group A was fed two tablets of *Qurs-e-kafoor* along with two tablespoon of *Sharbat-e-bazoori motadil* twice a day for 15 days, and those of Group B was given one tablet Norfloxacin 400mg with plane water twice a day for 7 days, orally. The duration of study of Group A was 15 days and that of Group B was 7 days. The follow up was made at weekly interval.

The study was open observational and randomised, and the patients were informed of the expected benefits and hazards. The treatment was started after taking written informed consent from the patients.

OBSERVATIONS AND RESULTS

Table 1: Distribution of Patients According to Age

Age groups	No. of patients	percentage
10-20	8	20.00
21-30	12	30.00
31-40	6	15.00
41-50	8	20.00
51-60	6	15.00
Total	40	100.00

Table 2: Distribution of Patients According to Sex

Sex	No. of patients	percentage
Male	19	47.5
Female	21	52.5
Total	40	100.00

Table 3: Distribution of Patients According to Marital status

Marital status	No. of patients	Percentage
Married	26	65.00
Un-married	14	35.00
Total	40	100.00

Table 4: Distribution of Patients According to Occupation

Occupation	No. of patients	Percentage
Students	9	22.50
Service class	2	5.00
Business class	7	17.50
House wives	12	30.00
Miscellaneous	10	25.00
Total	40	100.00

Table 5: Distribution of Patients According to Sleep

Sleep	No. of Patients	Percentage
Normal	13	32.50
Disturbed	27	67.50
Total	40	100.00

Table 6: Distribution of Patients According to previous history of UTI.

P/H of UTI	No. of Patients	Percentage
Present	12	30.00
Not present	28	70.00
Total	40	100.00

Table 7: Showing effect of Drugs on clinical features of UTI

S. No.	Clinical Features	GROUP-A. n=20 (Qurse-e-kafoor & Sharbat-e-bazoori motadil)					GROUP-B. n=20 (Norfloxacin)		
		0 Day	7th Day		15th Day		0 Day	7th Day	
		No. of Cases	No. of Cases	% age of Improvement.	No. of Cases	% age of improvement	No. of Cases	No. of Cases	% age of Improvement.
1	Dysuria	20	15	25	5	**75**	18	7	**61.1**
2	Increased frequency of micturition	20	17	15	7	**65**	20	6	**70**
3	Fever with chills and rigor	16	8	50	3	**81.2**	13	2	**84.6**
4	Burning micturition	20	16	20	3	**85**	20	7	**65**
5	Haematuria	11	6	45.4	3	**72.7**	14	3	**78.5**
6	Pyuria	11	8	27.2	4	**63.6**	9	2	**77.7**
7	+ve Urine culture	20	-	-	9	**55**	20	7	**65**

In this study it was found that maximum number of patients belongs to 21-30 age group (12 patients) and female (52.5%) predominated the incidence. Out of total 40 patients 26 (65%) were married, 12 (30%) were house wives according to occupation, 27 (67.5%) had disturbed sleep due to increased frequency of micturition at night, and 12 (30%) were having positive history of previous UTI.

In Group A Dysuria was present in 20 patients at the commencement of the study, in 15 patients at 7th day, in 5 patients at 15th day of treatment and in Group B in 18 patients at the commencement of the study, in 7 patients at 7th day of the treatment. Thus Dysuria was improved in 75% cases in Group A and in 61.1% cases in Group B at the end of the study. The Unani formulations used in this study are more effective in reducing Dysuria than the Norfloxacin.

At the commencement of the study increased frequency of micturition was present in 20 patients in each group. It was present in 17 patients at 7th day, in 7 patients at 15th day of the treatment in Group A and in 6 patients at 7th day of the treatment in Group B. Thus increased frequency of micturition was improved in 65% cases in Group A and in 70% cases in Group B at the end of the study. The effect of Unani drugs is approximate to that of Norfloxacin in relieving increased frequency of micturition.

Fever with chills and rigor was present in 16 patients in Group A and in 13 patients in Group B at the commencement of study. It was present in 8 patients at 7th day, in 3 patients at 15th day of treatment in Group A and in 2 patients at 7th day of treatment in Group B. Thus Fever with chills and rigor was improved in 81.2% cases in Group A and in 84.6% cases in Group B at the end of the study. The effects of *Qurs-e-Kafoor* and *Sharbat-e-Bazoori motadi*l in reducing fever with chills and rigor is nearly equal as that of Norfloxacin.

In each Group Burning micturition was present in 20 patients at the commencement of the study. It was present in 16 patients at 7th day, in 3 patients at 15th day of treatment and in 7 patients at the 7th day of treatment in Group B. Thus the Burning micturition was improved in 85% cases in Group A and in 65% cases in Group B at the end of the study. *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* acts better in relieving burning during micturition than Norfloxacin.

Haematuria was present in 11 patients and 14 patients in Group A and Group B respectively at the commencement of the study. It was present in 6 patients at 7th day, in 3 patients at 15th day of treatment in Group A and in 3 patients at 7th day of treatment in Group B. Thus the Haematuria was improved in 72.7% cases in Group A and in 78.5% cases in Group B at the end of the study. The effect of our Unani formulations and Norfloxacin is almost equal.

In Group A Pyuria was present in 11 patients at the commencement of the study and in 8 patients at 7th day, in 4 patients at 15th day of the treatment. In Group B it was present in 9 patients at the commencement of the study and in 2 patients at 7th day of the treatment. Thus Pyuria was improved in 63.3% cases in Group A and in 77.7% cases in Group B at the end of the study.

Urine culture was positive in 20 patients in each Group at the commencement of the study. Urine culture becomes negative in 11 (55%) cases in Group A and in 13 (65%) cases in Group B at the end of the study.

The effect of *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* on Pyuria and Urine culture is slightly less than that of Norfloxacin.

DISCUSSION AND CONCLUSION

During the study all the patients were divided into five age groups. It was found that maximum number of patients (12) belongs to age group 21-30 years with preponderance of females. It is well synchronized with the fact that highest incidence of UTI occurring in the person between the age group 21-30 years due to sexual activity and among females due to having short urethra[1, 2, 3, 13,14,15].

While analysing marital status and occupation it was observed that the maximum number of patients were married and house wives. It is too in accordance with the facts described in various texts, the UTI is more common in married females due to sexual activity and having short urethra[5,7,13,15].

In this study 27 patients were suffering from disturbed sleep, this is possible because of increased frequency of micturition at night,[16] and also previous history of UTI was positive in substantial number of patient which tells about the recurrence of UTI [2,4, 17,15].

All these observations about the Urinary tract infection in the study are found to be in accordance with the descriptions present in the classical Unani literature as well as in modern medical texts.

When the Unani formulations *Qurs-e- kafoor* and *Sharbat-e-bazoori motadil* were given to the patients of group A, we got promising results exclusively in the clinical features of UTI and urine culture may be due to, Anti- inflammatory, cooling and diuretic, Antipyretic, Sedative, Haemostatic, Anti-septic, and Anti-microbial effect of Qurs-e-kafoor and Sharbat-e-bazoori motadil.

The possible medicinal action of drug components of *Qurs-e-kafoor* and *Sharbat-e-bazoori motadil* in Group A which lead to such promising result in the clinical features may be as follows.

Relief in Dysuria may be attributed to the sedative, anti-inflammatory, and diuretic effects of Tukhm-e-kahu[18], Baikh-e-Badyan[19,20], and Tukhm-e-kharbuza[21,22], respectively.

Relief in Increased frequency of micturition can be attributed to the antiseptic effect of Kafoor[18,22,20,23] and anti-inflammatory effect of Baikh-e-Badyan[19,20].

Fever with chills and rigor may have been relieved due to the antipyretic, cooling & diuretic, and antiseptic effect of kasni[17], tukhm-e-kakri[13] and Kafoor[13] respectively.

The improvement in the Burning micturition in 85% cases may be due to cooling and diuretic effect of Tukhm-e-kharpaza, Tukhm-e-khira, Tukhm-e-kakri as described in the various text books of Ilmul Adviya and Medicinal Plants[18,20,21,22,23,24,25].

Relief in Haematuria may probably due to coagulant effect of Tukhm-e-Khurfa[20,22] and Kafoor[20].

Improvement in Pyuria and Urine culture may be attributed to the antiseptic effect of Kafoor[20,22] and anti-microbial effect of Khurfa[22].

REFERENCES

1. Souhami RL, Moxham J, Text Book of Medicine: Churchill Livingstone, New York, 1997; 3rdedition: 840-843,884-885
2. Walsh PC et.al, Campbell's Urology: Saunders Company USA, 2002; Vol.I. 8th edition: 516.
3. Kumar and Clark, Clinical Medicine: Harcourt publishers Limited, 2002; 5th edition: 615.

4. Cameron Stewart, Davidson M. Alex, et.al, Oxford text Book of Clinical Nephrology: Oxford University Press, New York, 1992; Vol.III: 1661-1664
5. Fauci, Braunwald, Isselbacher, Wilson, Martin Kasper, Houser and Longo, Harrison's Principles of Internal Medicine: McGraw Hill Companies, USA, 2001; Vol.2, 15th edition: 1620-1622
6. Golwalla AF, Medicine for students: Published by Dr.DF Golwalla, Empress court, Mumbai, 2003; 20th edition: 611
7. Jones Michael Boutton et.al, Diagnosis and Management of Renal and Urinary Diseases: Blackwell Scientific publication, USA, First published 1982; 60,62,65.
8. Tabri Ali Bin Rabban, Firdausul Hikmat: Aftab Alkain, Berlin, 1928; 686-689,696
9. Razi Abubakr Mohd. Bin Zakariya, Al-Hawi Fit-Tib: Dairatul Muarif, Usmania, Hyderabad, 1967; Vol-10: 215
10. Avicenna, Al-Qanoon (Translated by Syyed Ghulam Hussain): Munshi Naval Kishore, Lucknow, Vol.II: 95, 230,231
11. Ahmad Tanzeel, Thesis, on a Clinical trial on Hurqal-e-Baul: Submitted to Department of Moalejat, Ajmal Khan Tibbiya College, AMU, Aligarh, 1996
12. KabirUddin, Bayaz-e-Kabir: Hikmat Book Depot, Hyderabad, 17 Oct-1935; Vol.I, 5th edition:172,173
13. Vasan RS and Sheshadri Sudha, Text Book Medicine: Orient Longman Limited, 160 Anna Salai, Chennai, 1998; Ist edition: 981
14. Weatherall, DJLedingham, JGG. Warel DA, Oxford Text Book of Medicine: ELBS, Oxford University Press, UK, 1985; 18.65,18.66,18.71
15. Wyangaarden, JB, Smith LH, Cecil Text Book of Medicine: W.B.Saunders Company, Philadelphia, USA, 1998; Vol.I, 18th edition: 628-631
16. Swash, Michael, Hutchison's Clinical Method: ELBS, W.B. Saunders Company Limited, London, 1995; 20th edition: 117,118
17. Wein & Hanno, A Clinical Manual of Urology: Appleton Century Croft USA, 1987; 119,120,131,154
18. Ali Syyed Safiuddin, Unani Adviya Mufridah: Traqqi Urdu Bureau, New Delhi, 1986; 4th edition: 36,37,144-146,152,193,201,215-218
19. Aziz Md. Abdul, Mufridat-e-Azizi: Sahitya Mandir Press, Lucknow, 1948; 5,18,29,30,46,62,68
20. Rafiq-Uddin Md, Kanzul Adviya: Muslim University Press, Aligarh, 1985; 98-100,139-141,228-230,322-340,481,482,524-528.
21. Kirtikar K.R.Basu BD, & ICS, Indian Medicinal Plants: Lalit Mohan Basu, 49 Leader Road, Allahabad, India, 1981; 2nd edition:Vol.I-pp-242,243,727-729,1433,1434. Vlo.II-pp-1140-1145,1210-1213. Vol.III-pp-2152,2153
22. Nadkerni KM & Nadkerni AK, Indian Materia Medica: Bombay Popular prakashan, Bombay, 1954; Vol.I, 3rd edition: 172-174,250-253,313,314,402-408,557-559,582-584
23. Ram Labhaya, Goswamy Bayanul Adviya: Goswami Pharmacy Delhi, 1984; 2nd edition: Part I-88,233,234,239,245,246,275.Part II-93,94,140,144-146,177
24. Ghani Najmul, Khazinatul Adviya: Munshi Naval Kishore, Lucknow, 1926; Vol.2: 487,489,490
25. Yameen Shekh Mohd, Makhzanul Mufridat: Rafah Aam, Printing Press, Haning Mandi, Agra, pp-71,103,116,117,120,129,134