

ROLE OF SHARBAT-E-BAZOORI IN UTI (URINARY TRACT INFECTION) - A REVIEW

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ABSTRACT

UTI is a common bacterial infection that affects the urinary system. This infection affects all ages and both sexes. Despite these, women are usually more susceptible to this problem. It has been calculated that worldwide there are at least 150 million cases of symptomatic urinary tract infections each year. The incidence in females is 1% decade. In classical Unani Literature there is no specific term coined for UTI. Unani Physicians described it under different heading i.e. Warm-e-kulliyya, warm-e-masana, Hurqat- ul- baul and Taqtir ul boul etc. In Unani ,Sharbat e bazoori motadil was used for the Urinary problems from many more years. It cures the UTI and prevent from recurrence.

Keywords: UTI, Women, Unani medicine, Sharbat-e-Bazoori motadil.

INTRODUCTION

Urinary tract infection (UTI): An infection of the kidney, Ureter, Bladder, or Urethra ⁽²⁸⁾. UTI refers to both microbial colonization of the urine and tissue invasion of any structure of the urinary tract. Bacteria are most commonly responsible, although yeast, fungi and viruses may produce urinary infection ⁽⁸⁾. UTI are often categorized by in site of infection. UTI implies multiplication of organism in the urinary tract, and is defined by the presence of more than 100000 organism per ml in a midstream sample of urine (MSU) ⁽³⁾. Up to 50% of women have UTI at some time. The prevalence of UTI in women is about 3% at the age of 20, increasing by about 1 % in each subsequent decade ⁽¹⁾. UTI is much more common in women than men probably due to short urethra through which bacteria ascend ⁽²⁾.

CAUSATIVE ORGANISMS:

- E.coli (most common)^(1,15)
- Staphylococcus aureus
- Staphylococcus albus
- Pseudomonas
- Klebsiella

- Schistosoma haematobium[^{das}
- Chlamydia trachomatis⁽¹⁹⁾
- Trichomonas candida⁽⁵⁾

PATHOLOGICAL CHANGES: These comprise inflammation of the bladder mucosa, pelvis, calyces and renal parenchyma which, in severe cases, may progress to suppuration and abscess formation. There is purulent urine with congestion and inflammation of the urinary tract⁽¹⁶⁾.

RISK FACTORS FOR UTI:

- Incomplete bladder emptying (pelvic tumours)^(1,15)
- Bladder outflow obstruction⁽¹⁾
- Neurological problems (multiple sclerosis, diabetic neuropathy)⁽¹⁾
- Gynaecological abnormalities (uterine prolapsed)⁽⁴⁾
- Vesico-ureteric reflux⁽¹⁾
- Foreign bodies
- Urethral catheter or ureteric stent⁽¹⁾
- Loss of Host defences
- Atrophic urethritis and vaginitis in post-menopausal women
- Diabetes mellitus⁽¹⁾

AETIOLOGY:

Urine is an excellent culture medium for bacteria; in addition, the urothelium of susceptible persons may have more receptors to which virulent strains of Escherichia coli become adherent. In women, the ascent of organisms into the bladder is easier than in men; the urethra is shorter and absence of bactericidal prostatic secretions may be relevant. Sexual intercourse may cause minor urethral trauma and transfer bacteria from perineum into the bladder. Instrumentation of the bladder may also introduce organisms. Multiplication of organisms then depends on a number of factors, including the size of the inoculum and virulence of the bacteria.⁽¹⁾

ROUTE OF INFECTION:

- Ascending infection from the urethra is the commonest.
- Haematogenous infection from kidney may cause cystitis, but rare.
- Lymphatic spread from neighbouring viscera has also been noticed. These viscera are mostly infected cervix, fallopian tube, vagina etc. This is also comparatively rare.^(2,15)

PREGNANCY AND URINARY PROBLEMS:

All gynaecologists are conversant with the fact that pregnancy has a profound effect on the ureter and kidney. This is due to the specific action of progesterone on all smooth muscles throughout the body. The gastrointestinal tract and gall bladder, the musculature of the veins and the ligaments of the spine and the pelvis are all affected. The changes are most remarkable, however, in the urinary tract and appear by the fourth month to reach a maximum at term. After pregnancy, this process of hydroureter slowly involutes and should return to normal by the end of the puerperium, certainly by the third month. If, however, a severe infection results in pyelonephritis of pregnancy, the process of involution may never be completed and permanent damage may result in chronic pyelonephritis. The cause of this ureteric dilatation is not the compression from the growing uterus since it occurs before such obstruction can operate. It is more frequently noticed on the right than the left and is probably due to some distortion of the ureteric canal by dextrorotation and dextroposition of the pregnant uterus, which is so frequent a finding at caesarean section.⁽⁴⁾

URETHRAL SYNDROME:

A patient with urethral syndrome is usually a postmenopausal woman complaining of dysuria, frequency of micturation and occasional stress incontinence. Urine is sterile. The cause of urethral syndrome is oestrogen deficiency at menopause causing weakening of the internal urethral sphincter and urethral mucosal changes⁽⁴⁾.

ASYMPTOMATIC BACTERIURIA:

This is defined as $> 10^5$ organisms/ml in the urine of apparently healthy asymptomatic patients. 3 % non-pregnant adult women and 5% of pregnant women have asymptomatic bacteriuria. It is increasingly common in those aged over 65⁽¹⁾.

CATHETER-RELATED BACTERIURIA:

In patients with a urethral catheter, bacteriuria increases the risk of gram –negative bacteraemia fivefold. However, bacteriuria is common, and almost universal during long-term catheterization⁽¹⁾.

CLINICAL ASSESSMENT:

Typical features of cystitis and urethritis includes

- Frequency of micturation occurs during the day and night, it may occur every few minutes and may cause incontinence⁽¹⁵⁾.
- Abrupt onset of frequency of micturation and urgency

- Scalding pain in the urethra during micturation(dysuria)
- Suprapubic pain during and after voiding
- Intense desire to pass more urine after micturation,due to spasm of the inflamed bladder wall (strangury)
- Urine that may appear cloudy and have an unpleasant odour
- Microscopic or visible haematuria ⁽²⁾
 - ❖ In Reiter's syndrome, in addition to urethritis, there is arthritis and conjunctivitis ⁽¹⁷⁾.

Systemic symptoms are usually slight or absent. However, infection in the lower urinary tract can spread; acute pyelonephritis is suggested by prominent systemic symptoms with fever, rigors, vomiting, hypotension and loin pain, guarding or tenderness,and may be an indication for hospitalization ⁽²⁾.

EXAMINATION:

On examination there is tenderness over the bladder ⁽¹⁵⁾.

UNANI CONCEPT:

Warm-e-majra-e-baul(UTI) starts from Urinary system. The Urinary tract consists of Kulliyatain(two kidney), Majaree-e-boul (ureter), Masana(bladder) and ahleel(urethra).

In the classical Unani literature the term Tadiyia majra-e-baul(UTI) was not found. But different term were use for it like Warm-e-masana, Warm-e-kulliyatain, Warm-e-Ahleel,Suzish-e-baul,Hararat-ul-baul,Taqteer-ul- baul,Usr-e-boul,Ahtabas-e-baul etc.

- Rabban Tabri in his book Firdoos ul hikmat quoted Buqrat saying enhancement of the heat in the urinary bladder, neck of the bladder get swollen.

THE DIFFERENT TERM WERE USED FOR UTI:

- *Hurqat -ul- Baul*: micturation occur with burning which may be present as 4 types
 1. Burning occurs due to jarb-e-gurdah or jarb-e-masana
 2. Hotness in the jigar (liver) due to dominant humour safra
 3. Lubricant fluids are present in the urinary tract⁽¹¹⁾
 4. Burning occurs due to qurooh(ulceration in the urinary tract)[tibb-e-akbar]
- *Taqteer –ul- Baul*: Urine passes drop by drop with burning and pain during micturation.The cause of it in unani literature pathri (stone) was lodge in Ahleel and Suzaak (gonorrhoea) ⁽²⁷⁾
- *Ahtabas-e-baul*: retension of urine which may occurs due to warm-e-masana,warm-e-gurdah, presence of blood clot or lubricant fluid in the urinary tract which is responsible for the obstruction in the tract ⁽¹¹⁾.

Kidney Infection (inflammation) may be present as

- Warm-e-Har: The cause of warm e har is either due to safra or excessive safra in the blood.
- Warm-e-barid: either due to excessive balgham in the blood or infected balgham (balgham mutafon). [akseer-e-azam]
- Warm-e-Masana: According to Hakeem Mohammad Hasan Quraishi in his authentic book Jame ul hikmat 'Inflammation which occurs in the urinary tract is known as Warm-e-masana'. Which may be the cause of Burning due to presence of safra⁽¹⁰⁾.

PATHOGENESIS:

According to the Unani concept whenever the body is attacked by microorganism (ajsam-e-khabeesa), mizaj, akhlat and culture media is altered.

When culture media is altered, microorganisms get easy entry in the following ways

1. Akhlat-e-mehmoodia (good humours) is eaten up by the microorganism.
2. Their toxins are added in the akhlat.
3. Owing to these toxins certain other organs are also affected and therefore mizaj and akhlat is again altered to the determinant of the body.
4. However, if the tabi'at is strong enough and has not succumbed to the infection, a good and healthy sign is seen that is the production of specific humours (immunoglobulin) against the microorganisms to get rid of the infection^(7, 8).

CLINICAL PICTURE:

- When infection occurs in the kidney then there is dull pain, if the infection occurs in the membranous part of the kidney then there is piercing pain (tees) in the suprapubic region⁽²⁵⁾.
- Sozish-e-boul (burning micturation)
- Baul- ud- dam (urine with blood and pus (reem))
- Taqteer- ul- boul

Sharbat Bazoori motadil is a polyherbal Unani Fourmulation for use in the patients of UTI, renal stone and other urinary problems, it reduces burning sensation in the urine and cures UTI. Hence the name is Bazoori's due to uses of seeds (tukhm) in this preparation. It is also known as Sharbat of seeds⁽²⁴⁾.

COMPOSITION OF SHARBAT BAZOORI MOTADIL

S.No	Name of Drug	Family	Actions	Parts Used	Dose	Recent research Author/year
1.	Kasnai (<i>Cichorium intybus</i>)	Asteraceae	Muhailil(Anti-inflammatory),Dafae Ta'ffun(Antiseptic), Anti fungal	Seeds,root	100 gm	Saedi R et al/2018
2.	Badiyaan (<i>Foeniculum vulgare</i>)	Apiaceae	Purgative(laxative), Mudire-e-baul(Diuretics)	Root	50 gm	-
3.	Kharbuzah (<i>Cucumis melo</i>)	Cucurbitaceae	Mudirr-e-baul,Mufaateh suda of masana	Seeds	50gm	Nishat A et al/2017 Waseem et al/2018
4.	Khayarain (<i>Cucumis sativa</i>)	Cucurbitaceae	Mudir-e-baul(Diuretics), Antibacterial	Seeds	50gm	Saedi R et al/2018
5.	Khar e khasak (<i>Tribulus terrestris</i>)	Zygophyllaceae	Mudirr-e-baul(Diuretic),Useful Burning micturation, Dysuria	Fruits	50gm	Ahmad et al/2016

PREPARATION: Soak all the drugs in water for 24 hours. Make decoction of all the drugs in water and obtain its filtrate, then mix sugar in the filtrate and make qiwan (1 taar) ⁽²⁴⁾.

DOSE AND ADMINISTRATION: 25-50ml twice a day with fresh water (empty stomach)⁽²⁴⁾.

TUKHM-E-KASANI: Found as a wild plant on roadsides in India, Deccan, Punjab, Kashmir, Persia and Europe. Seeds and roots of the plant are useful. It contains glucoside cichorin, bitter substance lactucin, intybin. Chicory closely resembles Taraxacum in its pharmacological properties; increase bile secretion and promote digestion, diuretic and strong anti-inflammatory ⁽²⁰⁾.

BAIKH-E-BADIYAAN: It is found all over India. Usually fruit, root and seeds are useful. The root is regarding purgative and it is one of the five purgative roots of the ancients in Europe. It is also used as diuretic increasing the secretion of urine and perspiration ^(21, 22).

TUKHM-E-KHARBUZAH: Extensively cultivated throughout India. Said to be truly wild in India, and tropical Africa. The seeds are supposed to be a cooling medicine. They are edible, nutritive and diuretic, anti-bacterial, anti-microbial, anti-fungal and used in painful discharges and suppression of urine ^(21, 22).

TUKHM-E-KHARAIN: The medicinal properties are the same as *C.melo* ^(13, 21, 22).

KHAR-E-KHASAK: The entire plant is useful, but more particularly the fruits are used in medicine. They possess cooling, diuretic, anti-inflammatory, tonic and aphrodisiac properties and are used in dysuria, urinary disorders, calculus and impotency. The diuretic properties no doubt are due to the large quantities of the nitrates present as well as the essential oil which occurs in the seeds. ⁽²²⁾

It has antimicrobial action against common urinary pathogens responsible for recurrent UTI, which lead to stone formation ⁽³⁰⁾.

CONCLUSION: With the rapidly growing economy, UTI has become a major problem in the world. This high prevalence in women is due to Sexual Intercourse, unhygienic conditions, perimenopausal and menopausal women. Between 20% and 30% of women who have had a UTI will experience a recurrence. Prophylactic antibiotics can prevent recurrent UTIs but there are growing concerns about microbial resistance, side effects from treatment and lack of long-term benefit. In Unani system of medicine Sharbat-e-Bazoori Motadil is cheap and cost effective, It prevents recurrent UTI and is also useful in renal stone.

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