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Treatment of bacterial urinary tract infection by Folliculinum: A case series

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Abstract

Although many different organisms can cause urinary tract infections (UTIs), *Escherichia coli* is the one that causes them most frequently. It commonly affects women, elderly people, and also children. It may be because so many infections are resistant to treatment or go unreported, yet treating UTIs has recently become a serious public health concern. There is pertinent research that evaluates how well Folliculinum treats urinary tract infections.

We administered Folliculinum as a specific for urinary tract infection following a thorough case taking, clinical examination, and investigation. Within 2 months of treatment, all symptoms were alleviated, and in the subsequent 6 consecutive months of follow-up, we discovered that there had been no recurrence. Clinical and pathological documentation of the patient's condition and post-treatment progress is available. We are unable to determine whether the study was effective because it was conducted in a small population, but a large-scale carefully planned controlled trial is necessary. For the establishment of useful data for the mentioned drug, more high-quality clinical tests are required.

Keywords: Urinary tract infection (UTI), homeopathy, Folliculinum, Escherichia coli

Introduction

Infectious disorders caused by microbes that affect people of all ages most frequently include urinary tract infections (UTIs). Around 150 million people are thought to contract UTIs annually, with 6 to 8 million cases being identified in the United States ^[1]. Clinicians in developing countries frequently encounter UTIs, which are thought to affect at least 250 million people annually worldwide. The emergence of resistant bacteria has rendered treating urinary tract infections extremely difficult ^[2].

Any component of the urinary tract, including the kidneys, bladder, ureters, and urethra, can get infected with a urinary tract infection (UTI). When it affects the upper tract, it is known as kidney infection (pyelonephritis) but when it affects the lower tract, it is known as a bladder infection (cystitis)). The symptoms of a lower urinary tract infection include pain from urinating, increased urination, and the accompanying urge to urinate despite having an empty bladder. In general, flank pain and fever from a kidney infection worsen the symptoms of a lower UTI [3].

UTI is defined as the multiplication of bacteria in the urinary tract. Since urine contaminates by peri-urethral flora, collection of urine must be done cautiously. Significant bacteriuria can be defined as the presence of 10^5 or more colonies of the same organism per mL of urine in females, but in males, since the chance of contamination is less likely, the presence of even $10^{[4]}$ or more of the same organism per mL of urine can be taken as significant [4].

The most prevalent bacterial infections that people get in the community and healthcare are UTIs. These are serious public health issues that are brought on by a variety of bacteria ^[5]. According to data reported in the journal Emerging Infectious Diseases in March 2012, *E. coli* is responsible for more than 85% of all illnesses. Some UTIs are also caused by bacteria such as Staphylococcus saprophyticus, Pseudomonas aeruginosa, and Klebsiella pneumonia ^[2]. Hospitals play a crucial role in the environmental spread of antibiotic-resistant bacteria, which has been recognized as an increasing public health problem. Over 80% of instances of UTI are caused by *Escherichia coli*, and treatment comprises an antibiotic course ^[6]. More effective natural medications must be developed as alternatives as a result of these worries. Homeopathic medications are made from natural materials including minerals, plants, animals, and plants via a process called potentization, or dynamization, which involves dilutions and successions that are done in succession.

The medicine Folliculinum was added By Roger Van Zandvoort in complete repertory under the chapter STOOL, section Culture $-e.\ coli.$ Two medicines represented are Follicullinum and Rauwolfia [7]. The drug Folliculinum is represented well in Othon Andre Julians Materia Medica, a drug proved by Dr. Donald Foubister [8].

Risk factors and common causes

UTIs can affect any segment of the urinary tract (including the bladder, kidneys, ureters, and urethra), however, the bladder and urethra are the most commonly affected (i.e. lower urinary tract). The most prevalent bacteria associated with UTIs are *Escherichia coli* Proteus mirabilis and Klebsiella pneumoniae ^[9].

Gender

Women are more likely than men to have UTIs due to various anatomical features (in comparison with men). Women's shorter urethras, which make it easier for bacteria to enter the bladder, are frequently to blame for this. Women are more likely than men to develop disease due to the proximity of the urethral opening to the rectum, which is where UTI-causing bacteria are known to reside [10].

Pregnancy

The predisposition to get UTIs is higher during pregnancy due to changes in the urinary tract brought on by pregnancy (especially from the 6th week through the 24th week) [10].

Menopause

The hormonal changes that result in the bacterial colonization of hazardous pathogens in the urinary tract in menopausal women may also increase their risk of urinary tract infections [11].

Health Issues

Additionally, several ongoing medical conditions may raise the risk of UTIs. These include immune system-related illnesses like diabetes, which may reduce the body's capacity to fight microorganisms. Alzheimer's disease and other age-related conditions might interfere with personal cleanliness, which can increase the chance of UTIs [11].

Clinical features

Although urinary tract infections don't usually produce symptoms, if they do, they may include 12

- A strong urge to urinate that doesn't go away;
- A burning feeling when urinating;
- Frequent, tiny volumes of urine passing;
- Cloudy urine
- Strong-smelling urine
- Red, bright pink, or cola-colored urine- a sign that there is blood in the urine
- Pelvic pain in women, particularly in the area of the pubic bone and in the middle of the pelvis.

Diagnosis of urinary tract infection

To identify urinary tract infections, the patient's medical history and physical examination should be taken into account. For urinalysis, urine samples, particularly midstream urine, should be taken into consideration. When a urinary tract infection is suspected, a urine culture provides more information [13].

Plain abdominal radiography and kidney, and urinary

- bladder ultrasound to rule out the possibility of stones and lumbosacral abnormalities.
- CT with contrast to rule out the abscess if renal symptoms continue;
- Urine flow rate and post-void bladder ultrasonography (to measure residual volume) in any patient with evidence of bladder outflow obstruction.
- Important anatomical information about the urinary tract is provided by IV pyelography.
- MSU is used when a patient has a severe urinary infection.

Materials and Methods

All patients were followed up in IPD/OPD of Govt Homeopathic Medical College, Kozhikode. Patients with pus cells of more than 10 and *Escherichia coli* on culture are selected for the study. During follow-up, a reduction in the pus cells and bacterial count and symptoms were noted.

Case presentation

The following five cases which were taken reported mild to severe pus cells and mild to significant bacteriuria, which all had a risk to develop a recurrent infection.

Case 1

September 25th, a 40-year-old female patient has been presenting with more frequent, hot, and unpleasant urination. She claimed to have had identical issues for a while, but they went away after taking an antibiotic course. The patient has never had any other medical conditions.

The patient is afebrile, normotensive, and non-tachycardic upon physical examination. She seems to be doing fine. She had a soft, non-distended abdomen and normal bowel movements. She had some little suprapubic soreness, according to palpation. The findings of normal urine studies revealed 30-35 pus cells and a bacterial colony count of 3+.

Case 2

A 47-year-old female patient complained of burning and pain in the lower abdomen after urinating, frequent micturition (daytime frequency >10 and nocturnal frequency >4), inability to hold urine during urge, and involuntary dribbling while coughing or sneezing. The symptom was present for five months, relapsing and remitting, and responding poorly to antibiotic treatments.

Her other symptoms were a burning pain in the left sole of her foot while walking for the previous two months, cramps in her calves over the past year, and pain in both knee joints that were made worse by getting up from a chair. Additionally, she had hot flashes during menopause.

Case 3

A 53-year-old woman who had been experiencing fever and rigors for four days also had right loin pain, dysuria, and a foul smell coming from her urine. Three weeks prior, she had visited a doctor for a persistent fever at a community clinic, receiving parenteral antibiotics. She had responded by getting better, but she later had a relapse of her ailments. The patient was confirmed to be febrile and had a 39.5 °C oral temperature, a 90 bpm pulse, and a 148/90mm Hg blood pressure upon physical examination. Auscultation revealed no abnormalities. Although the right renal angle was painful, the abdomen was soft and loose upon examination. Routine urine examinations showed up 1+

bacteria and 15/HPF pus cells. She is known to be hypertensive and diabetic for 5 years and under allopathic medication.

Case 4

A 52-year-old woman complained of low back discomfort, nausea, and chills for the previous five days. She experienced increased frequency, urgency, and dysuria in the following week. She took antibiotics for two days after identifying the UTI symptoms, but due to weakness and nausea, she was unable to complete the course of treatment. Her previous medical history is significant for a history of diabetes mellitus and repeated UTIs that were treated with antibiotics. The following day, cultures and urine tests both reveal 3+ *Escherichia coli* organisms and 15-20 pus cells. Her additional symptoms were a pain in the right shoulder

joint that radiates to her fingertips and gets worse when she raises her arm.

Case 5

A 59-year-old postmenopausal female attended with a fever, painful and burning urination, and an acute febrile sickness (dysuria). The patient was in a usual state of health and perfectly managing household work. She experienced a persistent fever a week before the onset of symptoms, along with mild lower abdomen pain and dysuria. Gradually, increased frequency of urination was followed by dysuria. For 15 years, previous medical history was important for hypertension. She has been managing her hypertension with allopathic medication. A detailed urine report revealed the presence of moderate pus cells, a small number of epithelial cells, and moderate gram-negative bacilli.

Table 1: Analysis of cases

	Case 1	Case 2	Case 3	Case 4	Case 5
1 st	25/9/21	21/6/21	14/5/21	25/11/21	19-2-21
1 st prescription	Folliculinum 1M/1D	Foll-1M/1D	Foll-200/1D	Foll-1M/1D	Foll 200/1D
Before pus cells/HPF	30-35	10-12	7-10	15-20	13-15
Before bacterial count	3+	3+	1+	3+	3+
Follow up	8/10/21	14/7/21	21/6/21	10/12/21	10/3/21
	Foll- 1M/1D	Foll 1M/1D	Foll 200/1D	Foll-1M/1D	Foll 1M/1D
	22/10/21	4/8/21	F011 200/1D	28/12/21	12/4/21
	Foll-1M/1D	Foll 1M/1D		Foll-1M/1D	Foll1M/1D
After pus cells	Nil	2-4	1-2	Nil	0-1
After bacterial count	Nil	Nil	Nil	Nil	Nil

Diagnostic procedure and assessment

Cases are diagnosed as UTIs by the following criteria.

- 1. Positive E coli culture of midstream sample of urine or
- 2. Pus cells greater than or equal to 5/HPF in urine microscopy

The urine routine was repeated at the beginning and after every2-3 weeks for assessment

Therapeutic intervention and assessment

All five cases were diagnosed as UTIs due to clinical history and from laboratory findings as shown in Tables 2 and 3. They were all prescribed with different potencies of

folliculinum according to the susceptibility and nature of the disease. The urine routine was repeated after 2-3 weeks and the pus cells and bacterial count of the five cases showed a significant reduction. Along with this, some women had improvement in their hot flush state and burning.

Table 2: Assessment criteria based on pus cells in urine

	Grade	Score
More than 25	+++	3
16 to 25	++	2
5 to 15	+	1
<5	0	0

Table 3: Assessment criteria based on bacterial colony count

Method of collection Midstream void	Colony count (per ml)	Probability of infection	Score
	>10 ⁵	Very likely	3
	$10^4 \text{ to } 10^5$	Suspicious: repeat	2
	<104	Likely	1
	<10 ³	Unlikely	0

Follow up

As a follow-up, the patients were followed for 3months. Five cases were treated during the year 2020-2021. Medicine was repeated every 2 weeks or less because the condition was acute. The patients reported back after 2-3 weeks and the urine routine was repeated. The pus cells and bacterial count in urine were found to be reduced.

Discussion

The use of folliculinum in the treatment of bacterial urinary tract infections was found to be both safe and effective. According to the literature that is currently accessible, only a touch work has been done in this area, and this medicine is rarely used to treat UTIs. When it comes to conditions that impair ovulation cycles, such as polycystic ovary syndrome, endometriosis, ovarian cysts, myomas, malignomas, and other tumors, as well as Depression and other apparent physical or mental diseases, foliculinum has a fantastic healing capacity.

As we all know, antibiotic resistance is a significant issue that continues to pose difficulties for the healthcare industry in many parts of the world, including both developed and developing nations. The growth and spread of infections that are multi-drug resistant have seriously put into question

current antibiotic treatment. This has forced a hunt for new antibacterial medication sources outside of conventional medicine.

Although UTI is a frequently occurring clinical illness, the chronic or recurrent form is less prevalent than the acute form. Since they are typically resistant to standard medications, chronic or recurring UTIs are frequently found to be difficult to treat. The presence of neutrophils in the urine and the presence of three positive urinary cultures over the past 12 months in symptomatic individuals are both required for the diagnosis of recurrent UTI. Recurrent UTIs severely lower the quality of life because of the symptoms broad range.

Conclusion

Homeopathic medicine Folliculinum for the treatment of urinary tract infections as an antibacterial agent has shown a significant result. Homeopathy is cost-effective and safe to administer with no side effects or adverse events seen. It can offer significant relief in infectious diseases also.

Declaration of patient consent

The authors attest that they have all necessary patient permission documents on file. The patient(s) has/have granted permission in the form for his/her/its photos and other clinical data to be published in the journal.

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Conflicts of Interest

There are not any conflicts of interest.

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