

Efficacy of Homoeopathy in the Management of Cystitis

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Abstract

Twenty cases of cystitis, in female patients under the age group 15-50 years were included in the study. Statistical evaluation of pre and post treatment scores showed that the Homoeopathic medicines prescribed according to the individual peculiarities of the patient was found to be more effective in the treatment of cystitis.

LIST OF TABLES

| NO: | TITLE | PAGE NO: |
|-----|---|----------|
| 1. | Organisms causing urinary tract infections in domiciliary practice. | 22 |
| 2. | Assessment criteria | 57 |
| 3. | Statistical Analysis | 61 |
| 4. | Age wise distribution of patients. | 62 |
| 5. | Distribution of patients according to presenting complaint. | 63 |
| 6. | Distribution of medicines used in the study. | 64 |
| 7. | Distribution according to organism. | 65 |

LIST OF FIGURES

| NO: | TITLE | PLATE NO: |
|-----|---------------------------|-----------|
| 1. | Anatomy of urinary tract. | I |
| 2. | Structure of kidney. | II |

| | | |
|-----|---|------|
| 3. | Interior of the bladder. | III |
| 4. | Medial sagittal section of female pelvis. | IV |
| 5. | Age wise distribution of patients. | V |
| 6. | Distribution according to presenting complaint. | VI |
| 7. | Dysuria before & after treatment. | VII |
| 8. | Frequency of urination before after treatment. | VII |
| 9. | Suprapubic pain before &after treatment. | VIII |
| 10. | Pus cells in urine before &after treatment. | VIII |
| 11. | Distribution of medicines used in the study. | IX |
| 12. | Distribution according to organisms isolated. | X |

Homoeopathy differs with regular medicine in its interpretation and application of several fundamental principles of science. It is these differences of interpretation and the practice growing out of them which gave homoeopathy its individuality and continues its existence as a distinct school of medicine¹.

Disease is always primarily a morbid dynamical or functional disturbance of the vital principle; and upon this is reared the entire edifice of therapeutic medication governed by the law of similia as a selective principle.¹

Cystitis is the most common urinary tract infection among women during the reproductive years². The vast majority of acute symptomatic involve young women. It was reported that an annual incidence of 0.5 – 0.7 infections per year occur in this group³. Cystitis is common among women between 20 and 50 years of age⁴.

Cystitis in adult women is of concern mainly because they cause discomfort, minor morbidity, time lost from work and substantial health care cost³.

Because of the risk of the infection spreading to the kidneys (complicated UTI) and due to the high complication rate in the elderly population, prompt treatment is almost always recommended⁵.

Since homoeopathic treatment has found to be effective in managing cystitis cases, and a scientific study on this subject is not known to be conducted, an attempt is made to evaluate the effectiveness of homoeopathic medicines with appropriate statistical analysis. Analysis is based on Paired t test with the level of significance, $P < .01$ Or $P < .05$. The method of approach is a clinical study without the use of control.

Aim and objective of the study

To assess the efficacy of homoeopathic treatment in the management of cystitis affecting females of the age group 15 – 50 years.

Cystitis is an infection of the bladder, but the term is often used indiscriminately and covers a range of infections and irritations in the lower urinary system⁹.

3.1. Anatomy of Urinary Organs

The urinary organs comprise the kidneys, which secrete the urine, the ureters, or ducts which convey urine to the urinary bladder, where it is for a time retained, and the urethra through which it is discharged from the body⁶.

Kidney:

The kidneys are situated in the posterior part of the abdomen one on either side of the vertebral column, behind the peritoneum, and surrounded by a mass of fat and loose areolar tissue⁶.

Structure:

The kidney is invested by a fibrous tunic, which forms a smooth, firm covering to the organ. Beneath this coat, a thin wide-meshed network of unstirred muscular fiber forms an incomplete covering. If a vertical section of the kidney is made from a convex to its concave border, it will be seen that the hilum expands into a central cavity, the renal sinus. This contains the upper part of the renal pelvis and the calyces, surrounded by some fat in which are embedded the branches of the renal vessels and nerves. The renal calyces forms seven to thirteen in number are cup-shaped tubes, each of which embraces one or more of the renal papillae- they unite to form two or three short tubes, and these in turn join to form a funnel shaped sac, the renal pelvis. The renal pelvis, wide above and narrow below where it joins the ureter, is partly outside the renal sinus. The renal calyces and pelvis form the upper expanded end of the excretory duct of the kidney⁶.

The ureters:-

The ureters are the two tubes which convey the urine from the kidneys to the urinary bladder. The ureter proper measures 25 to 30 cm in length, and is a thick walled narrow cylindrical tube which is directly continuous near the lower end of kidney with the tapering extremity of the renal pelvis. It runs downwards medial-ward in front of the psoas major and entering the pelvic cavity finally opens into the fundus of the bladder, at the lateral angles of the trigone. When the bladder is distended the openings of the ureters are about 5 cm apart, but when it is empty and contracted, the distance between them is diminished by one half. Owing to their oblique course through the coats of the bladder, the upper and lower walls of the terminal portions of the ureters become closely applied to each other when the viscous is distended, and acting as valve, prevent regurgitation of urine from the bladder⁶.

In female, the ureter forms as it lies in relation to the wall of the pelvis the posterior boundary of a shallow depression named the ovarian fossa, in which the ovary is situated. It then runs medial-ward and forward on the lateral aspect of the cervix uteri and upper part of the vagina to reach the fundus of the bladder. In this part of its course, it is accompanied for about 2.5cm by the uterine artery, which then crosses in front of the ureter and ascends between the two layers of the broad ligament. The ureter is distant about 2 cm from the side of the cervix of the uterus⁶.

Urinary bladder:-

The urinary bladder is a musculo-membranous sac as a reservoir for the urine⁶. In the adult, the empty bladder lies in the pelvic minor, posterior to the pubic bones, from which it is separated by the retro-pubic space. An empty bladder lies almost entirely in the pelvis. It is located in the antero-inferior part of the pelvis minor, inferior to the peritoneum. It rests on the pelvic floor posterior to the symphysis pubis, as it fills it ascends into the abdomen. A full bladder may reach the level of the umbilicus⁷.

The female bladder:-

In the female, the bladder is in relation behind with the uterus and the upper part of the vagina. It is separated from the anterior surface of the body of the uterus by the vesico-uterine excavation, but below the level of this excavation it is connected to the front of the cervix uteri and the upper part of the anterior wall of the vagina by areolar tissue. When the bladder is empty, the uterus rests upon its superior surface. The female bladder is said by some to be more capacious than that of the male, but probably the opposite is the case⁶.

Structure of the urinary bladder:-

The wall of the bladder is composed chiefly of smooth muscles, called detrusor muscle. It consists of three layers running in many directions. These are external and internal layers of longitudinal fibers and a middle layer of circular fibers. Towards the neck of the bladder, these muscle fibers form the involuntary internal sphincter of the urinary bladder. Some of these fibers run radially and assist in the opening of the internal urethral orifice⁷.

Interior of the bladder:-

The mucus membrane lining the bladder is over the greater part of the viscous, loosely attached to the muscular coat and appears wrinkled or folded when the bladder is contracted in the distended condition of the bladder, the folds are effaced. Over a small triangular area, termed the trigonum vesicae, immediately above and behind the internal orifice of the urethra, the mucous membrane is firmly bound to the muscular coat, and is always smooth. The anterior angle of the trigonum vesicae is formed by the internal orifice of the urethra, its postero- lateral angles by the orifices of the ureters. Stretching behind the latter openings is a slightly curved ridge, the torus uretericus, forming the base of the trigone and produced by an under lying bundle of non striped muscular fibers. The lateral part of this ridge extend beyond the openings of the ureters, and are named the plicae uretericae. They are produced by the terminal portions of the ureters as they traverse obliquely the bladder wall⁶.

The orifices of the ureters are placed at the postero-lateral angles of the trigonum vesicae, and are usually slit like in form. In the contracted bladder, they are about 2.5cm apart and about the same distance from the internal urethral orifice, in the distended viscous these measurements may be increased to about 5 cm.

The internal urethral orifice is placed at the apex of the trigonum vesicae, in the most dependent part of the bladder, and is somewhat crescentic in form;

The bladder is composed of the four coats- serous, muscular, sub-mucous and mucous coats⁶.

The urethra:-

The urethra conducts urine from the bladder to the outside⁶.

Female urethra:-

The female urethra is a short muscular tube (about 4 cm long) lined by mucus membrane. It corresponds to the prostatic and membranous parts of the male urethra. The female urethra passes antero-inferiorly from the urinary bladder, posteriorly and then inferior to the symphysis pubis⁷.

The external urethral orifice is located between the labia minora, just anterior to the vaginal orifice, and infero-posterior to the clitoris. The urethra, 5-6mm in diameter is closed except during micturition⁷.

The urethra lies anterior to the vagina and is separated from it superiorly by a vesico-vaginal space. Inferiorly it is so intimately associated with the vagina that it appears to be embedded in it. The ureter passes with the vagina through the pelvic and uro-genital diaphragm, and the perineal membrane. The inferior end of the urethra is surrounded by the sphincter urethrae muscles and some of its fibers enclosed both the urethra and vagina⁷.

3.2. PHYSIOLOGY:

Micturition is the process by which the urinary bladder empties when it becomes filled.

This involves two main steps:

- 1) The bladder fills progressively until the tension in its walls rises above a threshold level, which then elicits the second step;
- 2) A nervous reflex called the micturition reflex occurs that empties the bladder, or if this fails, at least causes a conscious desire to urinate. Although the micturition reflex is an autonomous spinal reflex, it can also be inhibited or facilitated by centers in the cerebral cortex or brain stem.

INNERVATION OF THE BLADDER

The principal nerve supply of the bladder is by way of the pelvic nerves, which connect with the spinal cord through the sacral plexus, mainly connecting the cord segments S2 and S3. Coursing through the pelvic nerves are both sensory nerve fibers and motor fibers. The sensory fibers detect the degree of stretch in the bladder wall. Stretch signals from the posterior urethra are especially strong and are mainly responsible for initiating the reflexes that cause bladder emptying.

The motor nerves transmitted in the pelvic nerves are para-sympathetic fibers. These terminate on ganglion cells located in the wall of the bladder. Short postganglionic nerves then innervate the detrusor muscle.

In addition to the pelvic nerves, two other types of innervations are important in bladder function. Most important are the skeletal motor fibers transmitted through the pudendal nerve to the external bladder sphincter. These are somatic nerve fibers that innervate and control the voluntary skeletal muscle of the sphincter. Also, the bladder receives sympathetic innervations from the sympathetic chain through the hypogastric nerves, connecting mainly the L2 segment of the spinal cord. These sympathetic fibers stimulate mainly the blood vessels and have little to do with bladder contraction. Some sensory nerve fibers also pass by way of the sympathetic nerves and may be important in the sensations of fullness and, in some instances, pain.

Transport of urine from the kidney through the ureters and into the bladder

Urine that is expelled from the bladder has essentially the same composition as fluid flowing out of the collecting ducts, there are no significant changes in the composition of urine as it flows through the renal calyces and ureters to the bladder.

Urine flowing from the collecting ducts into the renal calices stretches the calices and increases their inherent pace-maker activity, which in turn initiates peristaltic contractions that spread to the renal pelvis toward the bladder. The walls of the ureter contain smooth muscle and are innervated by both sympathetic and parasympathetic nerves as well as by an intramural plexus of neurons and nerve fibers that extends along the entire length of the ureters. As with other visceral smooth muscle, peristaltic contractions in the ureter are enhanced by para-sympathetic stimulation and inhibited by sympathetic stimulation.

The ureters enter the bladder through the detrusor muscle in the trigone region of the bladder. Normally, the ureters course obliquely for several centimeters through the bladder wall. The normal tone of the detrusor muscle in the bladder wall tends to compress the ureter, thereby preventing back-flow of urine from the bladder during micturition or bladder compression. Each peristaltic wave along the ureter increases the pressure within the bladder so that the region passing through the bladder wall opens and allows urine to flow into the bladder.

In some people, the distance that the ureter courses through the bladder wall is less than normal, so that contraction of the bladder during micturition does not always lead to complete occlusion of the ureter. As a result, some of the urine in the bladder is propelled backward into the ureter, a condition called vesicoureteral reflux. Such reflux can lead to enlargement of the ureters and, if severe, can increase the pressure in the renal calyces and structures of the renal medulla, causing damage to these regions.

Filling of the bladder and bladder wall tone, the cystometrogram:

When there is no urine in the bladder, the intravesicular pressure is about 0 but by the time 30 to 50 ml of urine has collected, the pressure rises to 5 to 10 cm of water. Additional urine – 200 to 300 ml – can collect with only a small additional rise in pressure; this collect with only a small additional rise in

pressure; this constant level of pressure is caused by intrinsic tone of the bladder wall itself. Beyond 300 to 400 ml, collection of more urine in the bladder causes the pressure to rise rapidly.

Superimposed on the tonic pressure changes during filling of the bladder are periodic acute increases in pressure that last from a few seconds to more than a minute. The pressure peaks may rise only a few cm of water or may rise to more than 100 cm of water. These pressure peaks are called micturition waves in the cystometrogram caused by the micturition reflex.

Micturition reflex

As the bladder fills, many superimposed micturition contractions begin to appear. They are the result of a stretch reflex initiated by sensory stretch receptors in the bladder wall, especially by the receptors in the posterior urethra when this area begins to fill with urine at the high bladder pressures. Sensory signals from the bladder stretch receptors are conducted to the sacral segments of the cord through the pelvic nerves and then reflexively back again to the bladder through the parasympathetic nerve fibers by way of these same nerves.

When the bladder is only partially filled, these micturition contractions usually relax spontaneously after a fraction of a minute, the detrusor muscles stop contracting, and pressure falls back to the baseline. As the bladder continues to fill, the micturition reflexes become more frequent and cause greater contractions of the detrusor muscle.

Once a micturition reflex begins, it is “self-regenerative”. That is, initial contraction of the bladder further activates the stretch receptors to cause still further increase in sensory impulses to the bladder and posterior urethra, which causes further increase in reflex contraction of the bladder; thus the cycle is repeated again and again until the bladder has reached a strong degree of contraction. Then, after a few seconds to more than a minute, the self-degenerative reflex begins to fatigue and the regenerative cycle of the micturition reflex ceases, permitting the bladder to relax.

Thus, the micturition reflex is a single complete cycle of (1) progressive and rapid increase of pressure, (2) a period of sustained pressure, and (3) return of the pressure to the basal tone of the bladder. Once a micturition reflex has occurred but has not succeeded in emptying the bladder, the nervous elements of this reflex usually remain in an inhibited state for a few minutes to 1 hour or more before another micturition reflex occurs. As the bladder becomes more and more filled, micturition reflexes occur more and more often and more and more powerfully.

Once the micturition reflex becomes powerful enough it causes another reflex, which passes through the pudendal nerves to the external sphincter to inhibit it. If this inhibition is more potent in the brain than the voluntary constrictor signals to the external sphincter, urination will occur. If not, urination will not occur until the bladder fills still further and the micturition reflex becomes more powerful.

Facilitation or inhibition of micturition by the brain

The micturition reflex is a completely autonomic spinal reflex, but it can be inhibited or facilitated by centers in the brain. These centers include (1) strong facilitatory and inhibitory centers in the brain stem, located mainly in the pons, and (2) several centers located in the cerebral cortex that are mainly inhibitory but can become excitatory.

The micturition reflex is the basic cause of micturition, but the higher centers normally exert final control of micturition as follows:

1. The higher centers keep the micturition reflex partially inhibited except when micturition is desired.
2. The higher centers can prevent micturition; even if the micturition reflex does occur, by continual tonic contraction of the external bladder sphincter until a convenient time presents itself.

3. When it is time to urinate, the cortical centers can facilitate the sacral micturition centers to help to initiate a micturition reflex and at the same time inhibit the external urinary sphincter so that urination can occur.

Voluntary urination is usually initiated in the following way: First, a person voluntarily contracts his or her abdominal muscles, which increases the pressure in the bladder and allows extra urine to enter the bladder neck and posterior urethra under pressure, thus stretching their walls. This stimulates the stretch receptors, which excites the micturition reflex and simultaneously inhibits the external urethral sphincter. Ordinarily, all the urine will be emptied, with rarely more than 5 to 10 ml left in the bladder⁸.

3.3. DEFINITION:

Cystitis is an infection of the bladder, but the term is often used indiscriminately and covers a range of infections and irritations in the lower urinary system⁹.

3.4. INCIDENCE AND PREVALENCE (EPIDEMIOLOGY)

Cystitis is rare in males¹⁰. Females are more prone to the development of cystitis¹¹.

The condition frequently affects sexually active women aged 20 to 50, but may also occur in those who are not sexually active or in young girls¹⁰. Older adults are also at high risk of developing cystitis, with the incidence in the elderly being much higher than in young people, as high as 33 out of 100 people¹².

It was reported that an annual incidence of 0.5 – 0.7 infections per patient per year occur in this group³.

Surveys screening for bacteriuria has shown that about 1% of school girls (aged 5 to 14 years) have bacteriuria. And that this figure increases to about 4 % by young adulthood and then by an additional 1% to 2% per decade of age. The prevalence in young women is 30 times more than in men. However with increasing age, the ratio of women to men with bacteriuria progressively decreases. At least 20% of women and 10% of men over 65 years have bacteriuria. The prevalence of bacteriuria also increases with institutionalization or hospitalization and concurrent disease¹⁹.

3.5. AETIOLOGY

Many different micro-organisms can infect the urinary tract, but by far the common agents are the gram-negative bacilli, *Escherichia coli* causes approximately 80% of acute infections in patients without catheters, urological abnormalities or calculi. Other gram-negative rods, especially *Proteus* and *Klebsiella* and occasionally *Enterobacter*, account for a smaller proportion of uncomplicated infections. These organisms plus *Serratia* and *Pseudomonas*, assume increasing importance in recurrent infections associated with urologic manipulation calculi or obstruction. They play a major role in nosocomial, catheter-associated infections³.

Gram positive cocci play a lesser role. However, *Staphylococcus saprophyticus* accounts for 10 to 15 % of acute uncomplicated cystitis in women. More commonly, enterococci and *Staphylococcus aureus* cause infections in patients with renal stones or previous instrumentation or surgery³.

About one-third of women with dysuria and frequency has either an insignificant number of bacteria in mid-stream urine cultures or completely sterile cultures and has been previously defined as having the

urethral syndrome. About three quarters of these women have pyuria; while one-quarter have no pyuria and little objective evidence of infection³.

3.6.PATHOGENESIS

The entry of bacteria into the female bladder is facilitated by the short urethra, and this explains, at least in part, the observation that symptomatic urinary tract infections frequently follow sexual intercourse¹⁵.

Although ascending route is much the commonest portal of entry for urinary tract infections, there may be on occasion infections; there may be on occasion being hematogenous spread. There is little evidence of lymphatic spread of infection through the urinary tract¹³.

The vaginal introitus and distal urethra are normally colonized by diphtheroids, staphylococcal species, lactobacilli and streptococcal species, but not by the entire gram-negative bacilli that commonly cause UTI's. In females prone to the development of cystitis, however enteric gram-negative organisms residing in the bowel colonize the introitus, the peri-urethral skin, and the distal urethra before and during episodes of bacteriuria³.

The factors that predispose to peri-urethral colonization with gram-negative bacilli remain poorly understood, but alteration of the normal vaginal flora by antibiotics, other genital infections, or contraceptives especially spermicide, appears to facilitate colonization by E.coli³. Small number of peri-urethral bacteria probably gain entry to the bladder frequently, a process that is facilitated in some cases by urethral massage during intercourse¹⁴. Whether bladder infections ensue depends on interacting effects of the pathogenicity of the strain, the inoculum size, and the local and systemic host defense mechanism³.

Factors influencing adhesion of pathogens include both the degree of piliation of the bacteria and the number of receptor sites on the urothelial cells. Adherence may also relate to the presence of certain glycolipid in human urothelial cells¹⁵.

Under normal circumstances, bacteria placed in the bladder are rapidly cleared, partly through the flushing and dilutional effects of voiding, but also as a result of the anti-bacterial properties of the urine and bladder mucosa. Owing mostly to a high urea concentration and high osmolarity, the bladder urine of many normal persons inhibits or kills bacteria. Poly-morpho-nuclear-leukocytes enter the bladder epithelium and the urine soon after infections arises and plays a role in clearing bacteriuria¹⁶.

ORGANISMS CAUSING URINARY TRACT INFECTION IN DOMICILLIARY PRACTICE²²

Table 1.

| Organism | Approximate frequency (%) |
|--------------------------------------|---------------------------|
| Escherichia coli and other coliforms | 68 ⁺ |
| Proteus mirabilis | |
| Klebsiella aerogenes | 12 |

| | |
|------------------------------|----|
| Enterococcus faecalis | 4 |
| Staphylococcus saprophyticus | 6 |
| | 10 |

CONDITIONS AFFECTING PATHOGENESIS:

- 1) Gender and sexual activity: The female urethra appears to be particularly prone to colonization with colonic gram-negative bacilli because of its proximity to the anus, its short urethra (about 4 cm), and its termination beneath the labia. Sexual intercourse causes the introduction of bacteria into the bladder and is temporarily associated with the onset of cystitis. Voiding after intercourse reduces the risk of cystitis, probably it promotes the clearance of bacteria introduced during intercourse. In addition, use of spermicidal compounds with a diaphragm or cervical cap or of spermicide-coated condoms dramatically alters the normal introital bacterial flora and has been associated with marked increases in vaginal colonization with E.coli.
- 2) Pregnancy: Urinary tract infections are detected in 2 to 8 % of pregnant women.
- 3) Obstruction: Any impediment to the free flow of urine like tumour, stricture, stone or prostatic hypertrophy – results in increased frequency of infection.
- 4) Neurogenic bladder dysfunction: Interference with the nerve supply to the bladder, as in spinal cord injury, tabes dorsalis, multiple sclerosis, diabetes and other diseases, may be associated with urinary tract infection.
- 5) Vesicoureteral reflux: this is common among children with anatomic abnormalities of the urinary tract as well as among children with anatomically normal, but infected urinary tracts.
- 6) Bacterial virulence factors: Not all strains of E.coli are equally capable of infecting the intact urinary tract. Bacterial virulence factors markedly influence the likelihood that a given strain, once introduced into the bladder, will cause UTI.
- 7) Genetic factors: Increasing evidence suggests that host genetic factors influence susceptibility to UTI. The number and type of receptors on uroepithelial cells to which bacteria may attack are at least in part genetically determined³.

3.7. CLASSIFICATION OF CYSTITIS:

Bacterial cystitis, Interstitial cystitis, Autoimmune interstitial cystitis, Eosinophilic cystitis, Tuberculous cystitis, Acute cystitis, Chronic cystitis¹⁷.

3.8. CLINICAL FEATURES

1. Painful urination (dysuria) or Burning sensation.
2. Frequency of urination

3. Pain directly above the pubic bone.
4. Cloudy and foul smelling urine.
5. Blood in the urine.
6. Need to urinate at night.

Additional symptoms: Pain during sexual intercourse, flank pain, fatigue, fever, chills, nausea and vomiting, mental changes or confusion.

Often in an early person, mental changes or confusion are the only signs of a possible infection¹⁰.

TYPES:-

Cystitis – non-infectious.

(Abacterial cystitis, Radiation cystitis, Chemical cystitis, Acute urethral cystitis)

This is an irritation of the bladder not caused by urinary tract infection. Causes includes: Radiation therapy to the pelvis, chemotherapy with certain types of medications, and other irritants. Symptoms are similar to those caused by a urinary tract infection.

Cause: incidence of risk factors: it is most common in women of child bearing years. Exact cause not known. However, use of bubble baths, feminine hygiene sprays, sanitary napkins, and spermicidal jellies may be the possible cause.

urine analysis may reveal red blood cells and some white blood cells. A urine culture will not reveal any bacteria in the urine.

Frequency – dysuria – syndrome (urethral syndrome)

This is common in women. It consists of symptoms suggestive of urinary infections, but with negative urine cultures and absent pus cells. No significant abnormalities in these patients have been found and most urologists advice patients to adopt general measures such as wearing cotton underwear, using simple soaps, general perineal hygiene and voiding after intercourse.

Tuberculous urinary tract infection

This is secondary to renal tuberculosis. Cystoscopy shows that early tuberculosis of the bladder commences around ureteric orifice or trigone, the earliest evidence being pallor of the mucosa due to sub mucous edema. Subsequently, tubercles may be seen, and in long-standing cases, there is fibrosis and the capacity of the bladder is greatly reduced¹⁸.

Interstitial cystitis:

It is a bladder condition caused by chronic inflammation, leading to difficulties, with urination.

Cause: it is an inflammation of the tissues of the bladder, with no known infections (bacterial, viral or fungal) cause. The condition is identified through a diagnosis of exclusion.

Diagnosis is made by ruling out other causes. The characteristic finding of interstitial cystitis during cystoscopy is pin-point bleeding in the lining of the bladder¹⁰.

3.9. DIAGNOSIS:

1. History
2. Physical examination
3. Lab diagnosis

1) History:

A complete history can be divided into five major components.

- a) The chief complaint
- b) History of presenting illness
- c) History of past illness
- d) Past medical history
- e) Family history

2) Physical examination:

A complete and thorough physical examination is an essential component of the evaluation of patients who presents with urologic disease. Although it is tempting to become dependent on laboratory and radiologic tests, the physical examination often simplifies the process and allows the urologist to select the most appropriate diagnostic studies. Along with the history, the physical examination remains a key component of the diagnostic evaluation and should be performed conscientiously.

A case of acute uncomplicated cystitis upon examination, supra-pubic tenderness may be present. Look also for distended bladder.

3) Laboratory diagnosis: The presumptive laboratory diagnosis of acute cystitis is based on;

- a) Microscopic urine analysis that indicates bacteriuria, pyuria and hematuria. Indirect dip-stick tests for bacteriuria or pyuria may also be informative but are less sensitive than microscopic examination of urine.

Test urine for pus and bacteria. For this a “clean catch” urine sample is taken by washing the genital area and collecting a “mid-stream sample” of urine in a sterile container. (This method of collecting urine helps prevent bacteria around the genital area from getting into the sample and confusing the test results)⁵.

In the urine analysis, the urine is analyzed for white and red cells and bacteria. Then the bacteria are grown in a culture.

In symptomatic patients bacteria are usually present in the urine in large numbers ($>$ or $= 10^5$ / ml).

Microscopic bacteriuria, which is best assessed with gram-stained un-centrifuged urine, is found in more than 90% of specimen, from patients whose infections are associated with colony counts of at least 10^5 / ml and this finding is very specific. The detection of bacteria by urinary microscopy thus constitutes firm evidence of infection. But the absence of microscopically detectable bacteria does not exclude the diagnosis.

The absence of pyuria should cause the diagnosis of urinary tract infection to be questioned until urine culture data are available.

Many diseases of the urinary tract produce significant pyuria in the absence of bacteriuria. They are tuberculosis, staghorn calculi and stones of smaller size can produce intense pyuria with clumps of WBC's in the absence of urinary tract infection.

Microscopic hematuria is found in 40% to 60% of cases of cystitis and is uncommon in other dysuric syndromes.

- b) Urine culture: urine culture remains the definitive tests, and in symptomatic patients the presence of 10^2 or more cfu / ml of urine usually indicates infection.

Although many investigations recommend that urine culture and microbial susceptibility testing be done in all patients with suspected uncomplicated cystitis, in practice, this is often neither done nor necessary.

Thus in women with symptoms and signs suggesting acute cystitis, and in whom no complicating factors are judged to be present, urine analysis that is positive for pyuria, hematuria or bacteruria or a combination should provide sufficient documentation of urinary tract infections and a urine culture may be omitted.

A urine culture should be obtained however for women in whom symptoms and urine examination findings leave the diagnosis of cystitis in doubt¹⁰.

IMAGING TECHNIQUES

Indications: Radiologic studies are unnecessary for evaluation of most patients with genitourinary infections, but in certain patients they may be useful. In these patients radiologic imaging studies may determine acute infectious processes that require further intervention or may find the cause of complicated infections.

1. Plain film of abdomen
2. Excretory urogram
3. Voiding cystourethrogram
4. Ultrasonography

5. Cystoscopy
6. Radionuclide studies

3.10. DIFFERENTIAL DIAGNOSIS:

Cystitis must be differentiated from other inflammatory infectious conditions in which dysuria may be the most prominent symptom including vaginitis, urethral infections caused by sexually transmitted pathogens and miscellaneous non-inflammatory causes of urethral discomfort.

Characteristic features of the history, physical examination, and voided urine or other specimens allow patients with dysuria to be assigned to one of these diagnostic categories.

Vaginitis: is characterized by irritative voiding associated with vaginal irritation and is subacute in onset. A history of vaginal discharge or odour and multiple or new sexual partners is common. Frequency is not present. Physical examination reveals a vaginal discharge, and examination of vaginal fluid demonstrates inflammatory cells. The differential diagnosis includes herpes simplex virus, gonorrhoea, Chlamydia, trichomoniasis, yeast and bacterial vaginosis.

Urethritis: causes dysuria that is usually subacute in onset and is associated with a history of discharge and new or multiple sexual partners. Frequency and urgency of urination may be present but is less pronounced than in patients with cystitis, and fever and chills are absent. Urethralpyuria in the male are characteristic. The common causes of urethritis include gonorrhoea, chlamydial infection, herpes simplex and trichomoniasis. Appropriate cultures and immunological tests are indicated.

Urethral injury: associated with sexual intercourse, chemical irritants, or allergy may also cause dysuria. A history of trauma or exposure to irritants, and a lack of discharge or pyuria is characteristic¹⁹.

3.11. COMPLICATIONS:-

- 1) Chronic or recurrent urinary tract infection.
- 2) Complicated UTI (pyelonephritis)
- 3) Infection with proteus species and klebsiella species predispose to stone infection.
- 4) Acute renal failure¹⁰.

3.12. PROGNOSIS:

Most cases of cystitis are uncomfortable but disappear without complication after treatment¹⁰.

MONITORING:

Follow-up may include urine cultures to ensure that bacteria are no longer present in the bladder⁴.

3.13. PREVENTION:-

- 1) Keeping the genitalia area clean and remembering to wipe from front to back may reduce the chance of intro-ducing bacteria from the rectal areas to urethra.
- 2) Increasing the intake of fluids may allow frequent urination to flush the bacteria from the bladder.
- 3) Urinating immediately after sexual intercourse may help eliminate any bacteria that may have been introduced during intercourse.
- 4) Refraining from urinating for long periods of time may allow bacteria time to multiply, so frequent urinating may reduce the risk of cystitis in those who are prone to urinary tract infections¹⁰.
- 5) Drinking cranberry juice prevents certain types of bacteria from attaching the wall of the bladder and may lessen the chance of infection²⁰.
- 6) Avoid using douches and feminine hygiene sprays⁵.
- 7) Take showers instead of baths⁵.
- 8) All cotton underwear should be worn and changed everyday⁴.
- 9) Hydrotherapy (alternating hot and cold water to the infected area) can increase circulation to the area and help clear up the infection²¹.
- 10) Avoid use of spermicide in conjunction with a diaphragm for birth control².

3.14. MANAGEMENT OF ACUTE CYSTITIS¹⁹

Symptoms and signs of cystitis

| | |
|----------------------|---|
| History | urine analysis |
| Physical examination | No pyuria, bacteriuria, history characteristic of urethritis or vaginitis |
| therapy | Pyuria, bacteriuria Appropriate |
| Isolated | Recurrent |
| Culture if risk or | Culture |
| Complicating factors | |
| Treatment | Treatment |

HOMOEOPATHIC CONCEPT:

RELATIONSHIP OF BACTERIOLOGY TO HOMOEOPATHY

The past history of bacteriology is not only essential but very much interesting also. Since long time the attention of the scientists were more centered to the different diseases that bacteria might cause disease rather than to find out what they were. First of all the name of Fracastorius of Verona should be remembered. It is he who put forward his conception of “contagium vivum” as the cause of infectious disease in the year 1546. then in the year 1659 Kircher recorded the presence of minute germs in the blood of plague patient, Von Plenciz believed that diseases had some bacterial origin.

The medical profession bows their heads to the memory of Dutch scientist Leeuwenhock for his invention of ‘microscope’ in the year 1676. From this period onwards medical profession stepped towards the world of objectivism from the world of imagination.

In the middle of 19th century the development of bacteriology started with the revolutionary works of Louis Pasteur (1822 – 1895) and Robert Koch (1842 – 1910), Koch discovered the comma bacillus of cholera only in 1882.

Although Hahnemann had no microscope but more than 50 years before Koch’s discovery, he was the first to perceive, teach and discover the parasitical nature of all infectious diseases and the chronic diseases in general in the year 1827 before publication of his famous book “Chronic Diseases”. It is all the more significant that Hahnemann recognized the presence of bacteria in epidemic and acute diseases in 1818, more than 60 years before Koch isolated the tubercle bacillus.

The beauty of homoeopathic treatment is that reactions of the remedy at once guide the physician for further treatment. The selection of the second remedy depends on the responses of the first remedy. These reactions also reveal the nature of the disease, whether the disease is curable or not, because the reactions to curable disease differ from reaction to homoeopathic remedies differ from the reactions to homoeopathic remedies in incurable cases.

Hahnemann says in his *Materia Medica Pura*, “this doctrine appeals solely to the verdict of experience. Repeat the experiments, it cries aloud, repeat them carefully and accurately, and you will find the doctrine confirmed at every step; and it does what no medical doctrine, no system of physic, no so called therapeutics ever did or could do, it insists upon being judged by results²³.”

§ 7: Now as in a disease from which no manifest exciting or maintaining cause (*causa occasionalis*) has to be removed, we can perceive nothing but the morbid symptoms, it must (regard being had to the possibility of a miasm, and attention paid to the accessory circumstances, § 5) be the symptoms alone by which the disease demands and points to the remedy suited to relieve it, and moreover, the totality of these its symptoms, of this outwardly reflected picture of the internal essence of the disease, that is, of the affection of the vital force, must be the principal, or the sole means, whereby the disease can make known what remedy it requires – the only thing that can determine the choice of the most appropriate remedy – and thus in a word, the totality of the symptoms must be the principal, indeed the only thing the physician has to take note of in every case of disease and to remove by means of his art, in order that it shall be cured and transformed into health²⁴.

According to Stuart Close, Hahnemann was the first to perceive and teach the parasitical nature of infections or contagious diseases, including syphilis, gonorrhoea, leprosy, tuberculosis, cholera, typhus and typhoid fevers¹.

Hahnemann held that all chronic diseases are derived from three primary, infectious, parasitic sources¹.

Each infectious disease has its own variety diffused around the person whom it has attacked and liable to convey the disease at different distances, according to the nature of the complaint, or to the predisposition of the object exposed to it¹.

The parasitical nature of infectious disease was stated by Hahnemann in 1830 on the nature of cholera¹.

This doctrine of micro – organisms, for a time, threatened to swallow up the dynamical doctrines of Hahnemann, that disease is nothing more than the disturbance of life force, but law in time, always resumes its equilibrium, for they too (that is these many forms of bacillus) have come under the same law, even the law of similia and under the law of potentiality.

The homoeopathic remedy covers all phenomena of disease of whatever origin it may be, even to the micro-organisms. The life principle restored, or when the perverted life force resumes its normal, it puts an end to their existence. Thus we know that their existence is but an expression of that perversion.

They exist in a latent state, even as their parents, the miasms, exist in a latent state, they are able to convey diseases, even, and their medium is a miasmatic production. Therefore, their medium has the same disease – producing power and is of the same potential and what is true of the chronic miasms is also true of the acute miasms.

The invisible potentiality (the miasma) in some form is imposed upon the life of every unborn child in some degree, often to such an extent as to destroy the new life or drive it from its living house by its invisible expelling powers. These are the influences that break down the resisting power of the organism, that force the organism under false laws, thus bringing in all perversion, even to cell perversion and cell change.

The perverted cell of Virchow in any disease is not at first a pathological one, but a functionally changed cell, only cognizable by symptoms that are not normal or that are below the standard of life or what is known as true function.

Thus, when a bacillus is newly discovered, they immediately declare *caus morbi*; ergo, to cure, the bacillus must be destroyed. You may destroy the bacteria and yet not destroy the disease. The susceptibility remains the same, and only those that are susceptible will take the disease. The bacteria are the results of the disease²⁵.

For drug therapeutics, on the homoeopathic principle, therefore symptomatology may justify supercede diagnosis as being in many cases, surer and in all more thorough. It gives us further advantage in that it often enables us to attack maladies in their forming stage, before they have developed such lesions as physical signs can manifest²⁶.

The totality of symptoms is intended to be a curative indication; and if disease is to be cured, it should be taken as early as possible²⁶.

Therapeutics, when truly regarded is a science of cure, based on a theory of cure and resting on a foundation of experiment. Although not the basis of therapeutics, pathology must yet be a most important instrument in the practical application of the science of therapeutics²⁷.

MIASMATIC BACKGROUND

Throughout the whole urinary tract, all of the stigmata may manifest themselves. Miasmatic background of UTI given by various authors are given below.

Samuel Hahnemann's views:

Psora: pressure on the bladder, as if from an urging to urinate, immediately after drinking. He cannot hold the urine for any length of time, it presses on the bladder, and passes off while he walks, sneezes, coughs or laughs. Frequent micturition at night; he has to get up frequently at night for that purpose. After urinating, urine continues to drip out for a long time. During urination, burning also lancinating pains in the urethra and the neck of the bladder. Urine of penetrating, sharp, odour²⁸.

J.H.Allen:

Of the true chronic miasm, Psora and sycosis takes an active part in the production of disease in these organs. The tubercular element, however will be found to be not entirely absent by any means, for it is the tubercular, plus the sycotic element, that gives us many of the so-called malignancies and severe diseases of these organs. The tubercular patients complaints of anxiety and much loss of strength after urination. Often in psoric children, we have retention of urine when the body becomes chilled; we see this also in old people. Great distension of the bladder, with fullness, as if it was extremely full is another symptom; sense of constriction too is often present. There is not much pain in passing urine in psora, generally a slight smarting, due often to acidity of the urine.

The majority of these painful spasmodic symptoms depends largely upon the sycotic element, which we find affecting the urethra and bladder. Hematuria will be found more frequently under the tubercular diathesis, but may be found under all miasms. Many of the urinary symptoms of psora are due to reflexes or other diseased states, or in other words, to secondary causes, and especially is this true in women²⁵.

H.A.Roberts:

Psora: In children with these underlying conditions, we find retention of urine whenever the body gets chilled, and this condition arises in old people also. An opposite indication of psoric stigma is the involuntary urination when sneezing, coughing or laughing. There is smarting and burning on urination, but not from pathological causes.

In the urinary tract, all of the stigmata may manifest themselves, but most frequently these manifestations are psoric and sycotic, here also the combined assault of all these stigmata are represented in the malignancies.

Sycosis: There is intense pain on urination, children scream from the pain. This is due to a spasmodic contraction affecting the urethra. Where we find fibrous changes we may be sure there is a strong sycotic influence²⁹.

Dr. Harimohan Choudhry:

Psora: Retention of urine in children, body becomes chilled, painful retention of urine, with children and old people. In old people, great distention of the bladder with fullness as if extremely full – sense of

constriction. Urine will pass off frequently, involuntarily, when sneezing, coughing or laughing. Dark urine. Bloody urine, hematuria. Burning and smarting after urination.

Sycosis: Painful spasms affecting urethra and bladder²³.

Dr. Processo Sanchez Ortega.

In noway means that an isolated symptom perforce corresponds to some given miasm; it should always be referred to the whole, the totality, which is the real sign of the individual. Psora corresponds to deficiency, sycosis to excess and syphilis to perversion³⁰.

Dr. Subrata Kumar Banerjea.

Psora: Retention from cold; burning while urinating, stress incontinence, smarting and burning but not from pathological causes.

Sycosis: painful micturition contraction of the urethra. Child screams while urinating. Frequent desire before thunder storm. Urinary cramps.

Syphilis: generally various complications are of sycotic origin, but when it combines with syphilis it causes diminished flow, frequent desire for micturition without burning and irritation during the flow. Irritation and burning of the parts, whenever the urine touches, indicates the acidity of this miasm.

Tubercular: Restlessness and weakness after micturition. Offensive and putrid odour of urine. Haematuria during sleep³¹.

Phyllis speight

Psora: Retention of urine in children when body becomes chilled. In old people, great distention of bladder with fullness as if extremely full; sense of constriction. Urine will pass off, frequently, involuntary, when singing, coughing or laughing. Not much pain in passing urine, a slight smarting due often to acidity in urine. Many urinary symptoms are due to reflexes or other diseased states, or to secondary causes, esp. in women.

Sycosis: A sycotic element when they scream, when urinating. Painful spasms affecting urethra and bladder.

Pseudo-psora: Anxiety and much loss of strength after urination. Urine offensive and easily decomposed, odour musty, like old hay or foul smelling – even carrion like. These patients live in gloom with depressed spirits, gloomy forebodings, poor digestion, loss of energy, want of memory. Livid or ashy complexion, appetite often voracious as system calls for more food than it can properly take care of, when finally gastric derangements follow, until the organisms fails to perform any function in a proper manner³².

REPERTORIAL REPRESENTATION OF THE SIGNS AND SYMPTOMS OF CYSTITIS IN FEMALES.

In synthesis³³:

The signs and symptoms of cystitis are represented in the repertory under the following rubrics:

1. Bladder

catarrh, mucopus

fullness

inflammation

pain- urinating before, during and after,

pain- urging to urinate

tenesmus

urging to urinate

urination- dysuria

urination- frequent

2. urine

bloody

burning

cloudy

odor, offensive

purulent

Following medicines are given under above rubrics in different repertories:

HOMOEOPATHIC MEDICAL REPERTORY – ROBIN MURPHY³⁴

Murphy - Bladder - cystitis,

3 ACON, 1 all-c, 1 am-c, 2 *ant-t*, **3 APIS**, 2 *arg-n*, 2 *arn*, 2 *ars*, 1 aspar, 2 *bar-m*, **3 BELL**, 1 benz-ac, 2 *berb*, 1 cact, 2 *calad*, 1 calen, 2 *calc*, 1 camph, 2 *cann-i*, 1 cann-s, **3 CANTH**, 2 *caps*, 1 carb-an, 2 *caust*, 2 *chim*, 2 *chin-s*, 1 colch, 1 coloc, 2 *con*, 2 *cop*, 2 *cub*, 2 *dig*, 2 *dulc*, 1 elat, **3 EQUIS**, 2 *ery-a*, 1 eucal, 1 ferr-acet, 1 ferr-p, 2 *gels*, 2 *hep*, 2 *hydr*, 2 *hyos*, 1 kali-ar, 1 kali-bi, 1 kali-c, 1 kali-chl, **3 LACH**, 1 lil-t, 1 lith, **3 LYC**, **3 MED**, 2 *merc*, 2 *merc-c*, 2 *nux-v*, 1 pareir, 1 petr, 1 petros, 1 ph-ac, 1 pip-m, 1 polyg, 1 pop, 1 prun, **3 PULS**, 2 *rhus-t*, 1 sabal, **3 SARS**, 2 *sabin*, 1 senec, 1 seneg, **3 SEP**, 1 solid, 1 squil, **3 STAPH**, 2 *stigm*, 1 stram, 2 *sulph*, 1 tarent, **3 TER**, **3 THLASPI**, 1 thuj, 1 tritic, 1 tub, 1 uva, 1 verat v

burning, shooting pain and increased gonorrhoea, with

2 *arg-n*, 1 cann-s

cantharis, from abuse of

1 apis, 1 camph, 2 *canth*

cold, from taking

1 acon, 1 ant-t, 2 *apis*, 1 canth, **3 DULC**, 1 lyc, 1 op, **3 PULS**, 1 rhus-t, 2 *sulph*, 1 ter

catherer, after

1 acon, 2 *calen*, 1 camph, 1 canth, 2 *staph*

chronic

2 *ars*, 1 bals-p, 1 berb, 2 *cann-s*, **3 CANTH**, 1 carb-v, 2 *chim*, 1 cob, 1 coloc, 2 *cop*, 1 cub, 2 *dulc*, 2 *epig*, 1 ery-a, 1 eucal, 2 *fab*, 1 grin, 2 *hydr*, 1 iod, 1 juni-c, 2 *kali-m*, 1 lith, 1 lyc, 2 *med*, 2 *merc-c*, 1 nit-ac, 2 *pareir*, 1 pip-m, 2 *pop*, 1 prun, 2 *puls*, 1 rhus-a, 2 *sabal*, 1 sant, 1 seneg, 2 *sep*, 1 silphu, **3 STAPH**, 2 *stigm*, 2 *sulph*, 2 *ter*, 2 *thlaspi*, 1 thuj, 1 tritic, 2 *tub*, 2 *uva*

fever, with, in strangury

2 *acon*, 1 bell, 2 *canth*, 1 gels, 1 hydrang, 1 stigm

gonorrhoea, from

1 bell, 1 benz-ac, 2 *cann-s*, 2 *canth*, 2 *cop*, 1 cub, 1 merc-c, 1 puls, 1 sabal

injuries, after

2 *arn*, **3 CALEN**, 1 canth, 2 *staph*

menses, before and during

1senec

miscarriage, from

1 rheum, 1 sep, 1 staph

pus-like discharge after lithotomy, with

1 calen, 1 mill

recurrent

1 canth, 1 lyc, 1 puls, 1 sep, 1 staph

scarlatina, after

2 *canth*

suppression of menses or hemorrhoidal flow, after

2 *nux-v*

surgery, from, and during pregnancy

1 *calen*, 1 *pop*

throbbing all over, with

1 *bell*, 1 *sabin*

throbbing all over, with violent pain and almost clear blood, with

1 *canth*

cystitis, bladder, neck, of

2 *apis*, 1 *aspar*, 2 *bell*, **3 CANTH**, 2 *caps*, **3 CAUST**, 2 *chim*, 2 *clem*, 2 *cop*, 2 *dig*, 1 *elat*, 1 *hyos*, 2 *merc-c*, 2 *merc-i-r*, 2 *nux-v*, 2 *petros*, 2 *puls*, 2 *sars*, 2 *senec*

cystitis, bladder, neck, of

2 *apis*, 1 *aspar*, 2 *bell*, **3 CANTH**, 2 *caps*, **3 CAUST**, 2 *chim*, 2 *clem*, 2 *cop*, 2 *dig*, 1 *elat*, 1 *hyos*, 2 *merc-c*, 2 *merc-i-r*, 2 *nux-v*, 2 *petros*, 2 *puls*, 2 *sars*, 2 *senec*

PRESSING, pain, pressure in cystitis, in

3 LYC

Diseases **cystitis, bladder**

3 ACON, 1 *all-c*, 1 *am-c*, 2 *ant-t*, **3 APIS**, 2 *arg-n*, 2 *arn*, 2 *ars*, 1 *aspar*, 2 *bar-m*, **3 BELL**, 1 *benz-ac*, 2 *berb*, 1 *cact*, 2 *calad*, 1 *calen*, 2 *calc*, 1 *camph*, 2 *cann-i*, 1 *cann-s*, **3 CANTH**, 2 *caps*, 1 *carb-an*, 2 *caust*, 2 *chim*, 2 *chin-s*, 1 *colch*, 1 *coloc*, 2 *con*, 2 *cop*, 2 *cub*, 2 *dig*, 2 *dulc*, 1 *elat*, **3 EQUIS**, 2 *ery-a*, 1 *eucal*, 2 *eup-pur*, 1 *ferr-acet*, 1 *ferr-p*, 2 *gels*, 2 *hep*, 2 *hydr*, 2 *hyos*, 1 *kali-ar*, 1 *kali-bi*, 1 *kali-c*, 1 *kali-chl*, **3 LACH**, 1 *lil-t*, 1 *lith*, **3 LYC**, **3 MED**, 2 *merc*, 2 *merc-c*, 2 *nit-ac*, 2 *nux-v*, 2 *ol-sant*, 1 *pareir*, 1 *petr*, 1 *petros*, 1 *ph-ac*, 1 *pip-m*, 1 *polyg*, 1 *pop*, 1 *prun*, **3 PULS**, 2 *rhus-t*, 1 *sabal*, **3 SARS**, 2 *sabin*, 1 *senec*, 1 *seneg*, **3 SEP**, 1 *solid*, 1 *squil*, **3 STAPH**, 2 *stigm*, 1 *stram*, 2 *sulph*, 1 *tarent*, **3 TER**, **3 THLASPI**, 1 *thuj*, 1 *tritic*, 1 *tub*, 1 *uva*, 1 *verat-v*

cystitis, neck of bladder

2 *apis*, 1 *aspar*, 2 *canth*, 2 *caps*, 2 *chim*, 2 *clem*, 2 *cop*, 2 *dig*, 1 *elat*, 1 *hyos*, 2 *merc-c*, 2 *merc-i-r*, 2 *nux-v*, 2 *petros*, 2 *puls*, 2 *sars*, 2 *senec*

Diseases **emaciation, body bladder, catarrh cystitis, with**

2 *eup-pur*

Fever **hectic fever cystitis, in**

2 eup-pur

in cystitis, or kidney disease

1 chim

Kidneys **dull pain, cystitis, in**

3 EUP-PUR

Pulse **small, pulse quick, after working in sun and, in cystitis**

2 hell

COMPLETE REPERTORY – ROGER VON ZANDVORT³⁶

Bladder **-pain pressing, pressure in cystitis, in**

3 LYC

Female Sexual **-abortion, miscarriage cystitis, from**

1 acon, 1 cann-s, 1 canth

CLINIAL REPERTORY – O.E. BOERICKE³⁵

Urinary System **- inflammation, (cystitis) acute**

2 acon, 2 ant-t, 2 apis, 2 ars, 2 aspar, 3 BELL, 2 benz-ac, 2 berb, 3 CAMPH, 3 CANN-S, 3 CANTH, 2 chim-m, 2 con, 3 COP, 3 CUB, 2 dig, 3 DULC, 2 elat, 3 EQUIS, 2 erig, 3 EUCAL, 3 EUP-PUR, 2 ferr-acet, 3 FERR-P, 3 GELS, 2 hell, 2 hydrang, 2 hyos, 2 lach, 3 MERC-C, 2 nit-ac, 2 nux-v, 3 PAREIR, 2 petros, 2 pip-m, 3 POP, 2 prun, 3 PULS, 3 SABIN, 2 sabal, 2 sars, 2 sep, 2 sulph, 3 TER, 2 uva, 2 caps, 3 OL-SANT, 3 STIGM, 2 tritic

Therapeutics

Dr. William Boericke in his Pocket manual of Homoeopathic Materia Medica mentions the following medicines for cystitis³⁸

Epigea, Saururus, Populus tremuloides, Canth, Chimaph, Terebinth.

Dr. Clarke in his Condensed Materia Medica & Repertory mentions the following medecines³⁹:

Acon, Bism, Cann sat, Canth, Caust, Cinna, Cop, Equis, Eup purp, Ferr phos, Hell, Kali mur, Kalichlor, Lyco, Mag mur, Med, Methy blue, Musa, Petrosel, Pichi, Piper methy, Plumb, Pop trem, Prunus spi, Puls, Sabal, Sabin, Sepia, Taxus bacc, Tereb, Taren, Uva, Vesic, Zea.

Dr. Farrington in his Comparative Materia Medica mentions the following drugs⁴⁰:

Ananth, Benzoic acid, Berb vulg, Boric acid, Camp, Canth, Cubeb, Epig, Fabiana imb, Form, Gala niv, Hydrop, Juni comm, Lin usit, Lith carb, Methy blue, Myrit comm, Oleum sant, Oxydenr andro arbor, Parei brav, Piper methy, Popul trem, Rhus arom, Sabal ser, Santon, Sarsap, Staphy, Stigma maydis Zea, Terbi, Thlasp, Tritic, Uva ursi.

Population:

The present study was conducted in the department of organon of Medicine and Homoeopathic Philosophy, O.P. No:5 at the Government Homoeopathic Medical College, Kozhikode, from June 2004 to Sept 2005. The female patients in the age group 15 – 50 years, coming to the OPD and IPD were selected for the study.

Criteria:

Inclusion criteria: Patients who complaints of dysuria with positive findings in urine microscopy and culture were taken for the study.

Only females after menarchy were taken for the study.

Exclusion criteria: Females of pre-pubertal age are excluded.

Systemic diseases ruled out.

Diagnostic criteria:

Clinical signs and symptoms.

Pus cells greater than or equal to 5 / Hpf of centrifuged urine.

Positive urine culture.

Procedure –test urine for pus and bacteria. For this a clean catch urine sample is taken and a mid-stream sample of urine is collected in a sterile container. Urine is analysed for white and red cells and bacteria. Then the bacteria are grown in a culture. Colony counts of atleast 10^5 /ml is very specific.

Medicines: In the selection of medicines the approach was to individualize each case based on homoeopathic principles. The miasmatic background was given due consideration while selecting the medicine.

Repertorisation was based on Kent's repertory of the homoeopathic materia medica.

Repetition and change in potency was based on homoeopathic principles.

Procedure :.Signs and symptoms of cystitis are assessed by noting dysuria, frequency of urination, suprapubic pain and pus cells in urine before and after treatment. Effectiveness is assessed clinically and on laboratory investigations. Analysis is based on paired t test with the level of significance, $P < .01$.

Assessment criteria

Assessment tool was developed after literature review and in consultation with experts. Four major areas were identified as important parameters and each item were rated on a scale 0 – 3.

Table2

| Pain / tenderness | Grade | Score |
|-------------------|-------|-------|
| Severe | +++ | 3 |
| Moderate | ++ | 2 |
| Mild | + | 1 |
| No pain | 0 | 0 |

| Frequency | Grade | Score |
|---------------------|-------|-------|
| Below 5 in 24 hours | 0 | 0 |
| 5 – 9 | + | 1 |
| 10 – 14 | ++ | 2 |
| 15 and above | +++ | 3 |

| Pus cells | Grade | Score |
|--------------------------|-------|-------|
| Less than 5 / Hpf | 0 | 0 |
| 5 – 15 / Hpf | + | 1 |
| 16 – 25 / Hpf | ++ | 2 |
| More than 25 or numerous | +++ | 3 |

Cases are reviewed for a period of 2 weeks or until microscopy / culture becomes negative.

The method of approach was a clinical study without the use of control.

In the present study 20 female patients who attended OPD of Organon of Medicine from June 2004 – to Sept 2005 were included. These patients belonged to various socio-economic status end of age group between 15 – 50 years. The results of the study were evaluated using statistical principles.

AGE WISE DISTRIBUTION OF PATIENTS

Out of the 20 patients studied 6 patients (30%) were between the age group 36-40. 4 patients (20%) were between 31-35. 3 patients (15%) were between 21-25. 2 patients (10%) were between the age groups 26-30, 41-45, 45-50. 1 patient (5%) was between the age group 15-20.

Table 3

| Age group | No | % |
|-----------|----|----|
| 15-20 | 1 | 5 |
| 21-25 | 3 | 15 |
| 26-30 | 2 | 10 |
| 31-35 | 4 | 20 |
| 36-40 | 6 | 30 |
| 41-45 | 2 | 10 |
| 45-50 | 2 | 10 |

DISTRIBUTION OF PATIENTS ACCORDING TO THE PRESENTING COMPLAINTS.

Out of the 20 patients studied 19 patients(95%) had dysuria as the presenting complaint and 18 patients (90%) had frequency of urination and 16 patients (80%) had suprapubic pain and 2 patients (10%) presented with loin pain..

Table 4

| Symptoms | no | % |
|-----------------|----|----|
| dysuria | 19 | 95 |
| frequency | 18 | 90 |
| suprapubic pain | 16 | 80 |
| loin pain | 2 | 10 |

DISTRIBUTION OF MEDICINES USED IN THE STUDY

Table 5

| Drugs | Potency | Number | % |
|--------------|---------|--------|----|
| merc sol | 30, 200 | 1 | 5 |
| staphysagria | 30 | 1 | 5 |
| sulphur | 30 | 1 | 5 |
| apis | 30,200 | 2 | 10 |
| cantharis | 30 | 2 | 10 |
| ars alb | 30,200 | 3 | 15 |
| lyco | 30 | 3 | 15 |
| puls | 30,200 | 3 | 15 |
| nux vom | 30 | 4 | 20 |

Nux vom was found effective in 4 (20%) cases. Pulsatilla in 3 (15%), Lycopodium in 3 (15%), Ars alb in 3 (15%), Cantharis in 2 (10%), Apis in 2 (10%) and Merc sol, Staphysagria and sulphur was found effective in 1 case each.

DISTRIBUTION ACCORDING TO ORGANISM ISOLATED.

Table 6

| organism | number | % |
|-------------|--------|----|
| E.coli | 15 | 75 |
| Proteus | 2 | 10 |
| Klebsiella | 2 | 10 |
| No organism | 1 | 5 |

E.coli was isolated from the urine of 15 (75%) patients, Proteus from the urine of 2(10%), kleibseilla was isolated from the urine of 2 (10%) and no organism could be isolated in one case.

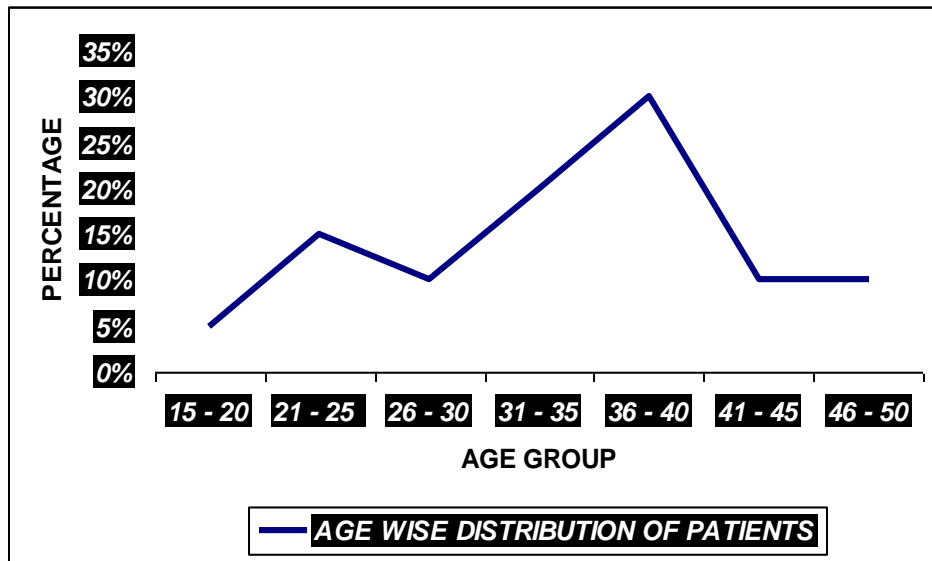


Figure -5

TemplateVI

DISTRIBUTION OF PATIENTS ACCORDING TO PRESENTING COMPLAINT

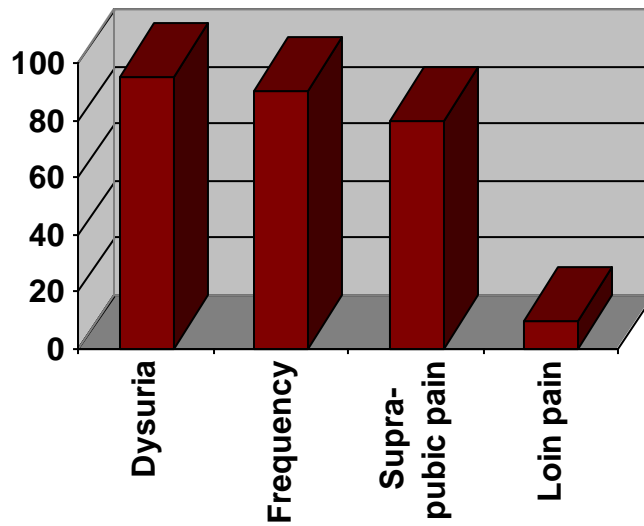


Figure - 6
EMPLATE - VII

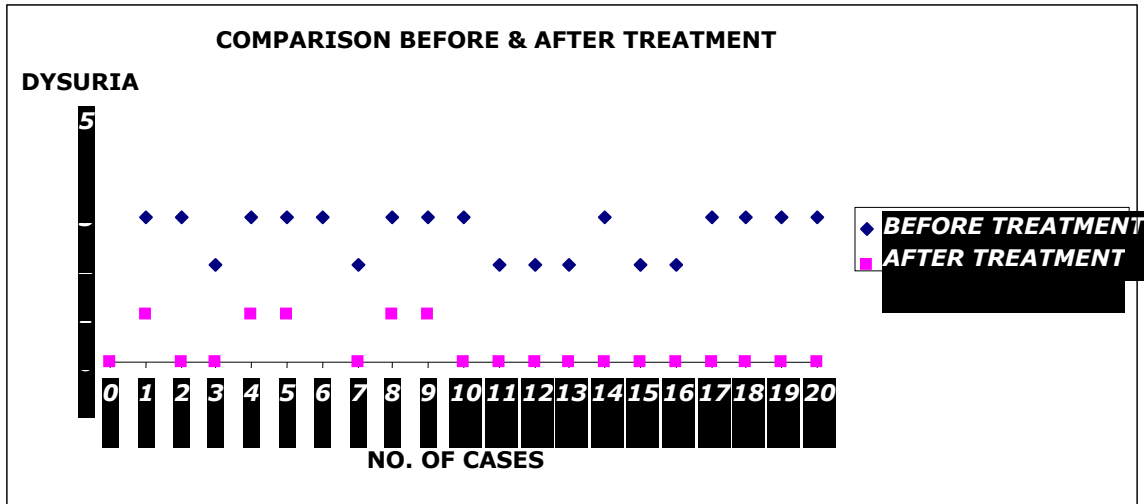


Figure - 7

TEMPLATE - VIII

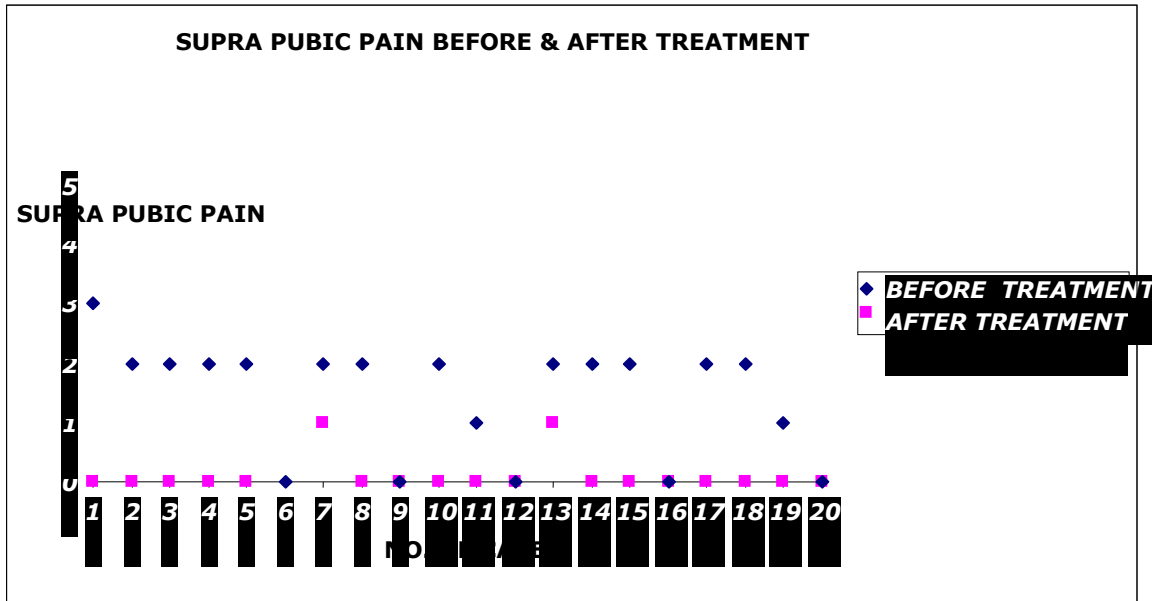


Figure - 9

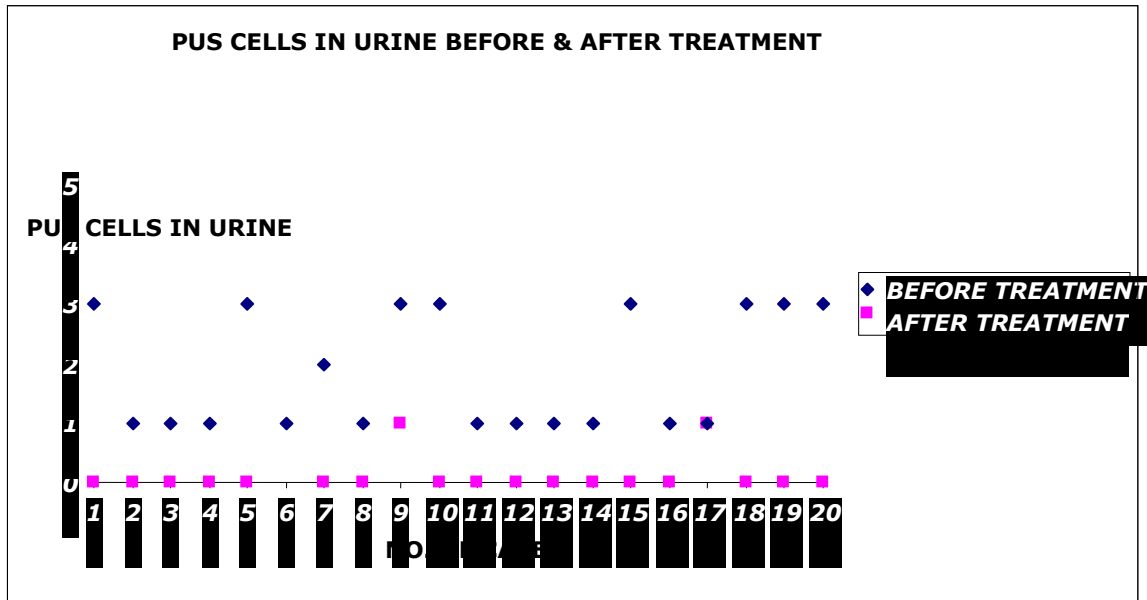


Figure - 10 TEMPLATE - IX

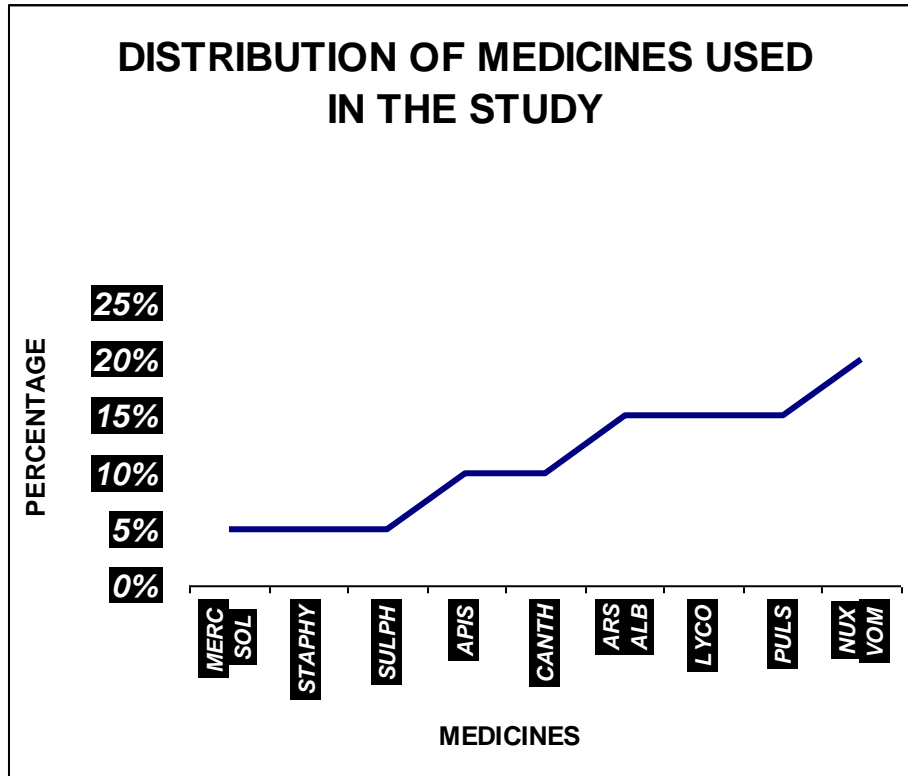


Figure - 11

TEMPLATE X

DISTRIBUTION ACCORDING TO ORGANISMS ISOLATED

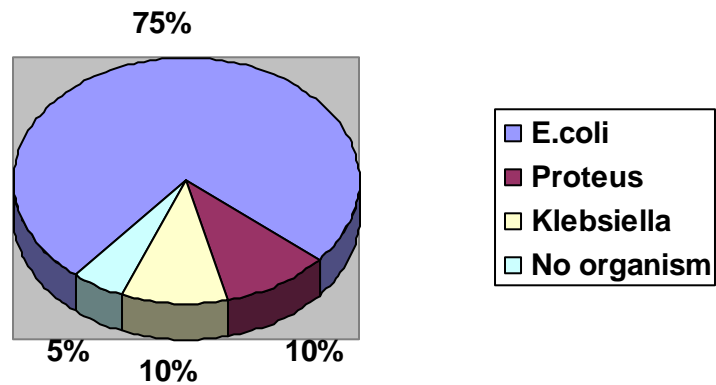


Figure – 12 STATIS EQ TICAL ANALYSIS

Table 7

| Parameters | No: of patients. | Tabled t value | Calculated t value | P level | significance |
|------------------------|------------------|----------------|--------------------|---------|---------------------|
| Dysuria | 20 | 2.86 | 21.466 | <0.01 | Highly significant. |
| Frequency of urination | 20 | 2.86 | 10.526 | <0.01 | Highly significant. |
| Suprapubic pain | 20 | 2.86 | 6.718 | <0.01 | Significant |
| Pus cells in urine. | 20 | 2.86 | 7.709 | <0.01 | Significant. |

| | | | | | |
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Comparison with the tabled value

This critical ratio t , follows a distribution with $(n-1)$ degrees of freedom. The 5% level of significance is 2.09 and 1% level is 2.86 for 19 degrees of freedom. The calculated values are greater than the tabled value. Therefore, the null hypothesis is rejected. Therefore there is difference in symptoms of cystitis before and after treatment.

In this study the efficacy of homoeopathic treatment of cystitis was evaluated. Assessment was based on the changes in urine microscopy and culture before and after treatment.

After statistical analysis, the calculated values were well above the tabled value at levels $P < 0.01$. Thus, this study provides an evidence to say that homoeopathic medicines are effective in managing this condition.

Medicinal management was found to be very much effective. Nux vomica was the medicine found effective in 4 (20%) patients. Ars alb, Lycopodium, and Pulsatilla was found to be effective in 3 (15%) patients each. Cantharis and Apis was found effective in 2 (10%) patients. Merc sol, Staphysagria and Sulphur was found to be effective in 1 (5%) patients each.

CONCLUSION

The following salient conclusions have been drawn from the present study after summarizing its findings.

- 1) Homoeopathic medicines are effective in the management of cystitis.
- 2) Age group mostly affected is between 36 – 40 years.
- 3) Psora is the predominant miasm in the background.

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