

Original article

Study of febrile urinary tract infections in paediatric patients

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Abstract:

Introduction: Urinary Tract Infection (UTI) is one of the most common viral infections in childhood. The infection may affect the upper urinary tract (called pyelonephritis) or the lower urinary tract (called cystitis). Unfortunately, it can be difficult, if not impossible, to distinguish pyelonephritis and cystitis based on clinical signs and symptoms, especially in infants and young children.

Methodology: The present study was carried out at our Department. Sample size was estimated with the help of expert. With the help of 'predesigned, pretested questionnaire patients were evaluated by history, clinical examination and investigations.

Results: Our data suggests that fever was a consistent finding with axillary temperature of more than 100° F in 65 cases and was a nonspecific manifestation. Pain abdomen was observed in 21 children and vomiting in 8 children. Older children presented with specific related to the urinary tract (burning micturation, polyuria and high coloured urine) making the diagnosis more easy. High index of clinical suspicion was necessary in infancy when symptoms were nonspecific. In infancy, symptoms are nonspecific and may allow prolonged infection to occur prior to diagnosis and treatment.

Conclusion: The management of UTI in children can be challenging because the symptoms may be vague and vague in young children. A high level of suspicion is important. The UTI should be considered in any child under 2 years of age with a fever. On the other hand, an overdose can lead to unnecessary and potentially invasive tests.

Keywords: Urinary tract infection, febrile, Body temperature

Introduction:

Urinary Tract Infection (UTI) is one of the most common viral infections in childhood. ^{1,2}The infection may affect the upper urinary tract (called pyelonephritis) or the lower urinary tract (called cystitis). Unfortunately, it can be difficult, if not impossible, to distinguish pyelonephritis and cystitis based on clinical signs and symptoms, especially in infants and young children. ^{3,4} From a practical point of view, these two conditions are discussed together under the umbrella of a UTI. High incidence, recurrent incontinence, associated illnesses, and problems with the collection of contaminated urine sample present significant challenges in the clinic. ^{5,6} UTI is a major problem for children, parents and nurses alike. Prompt diagnosis and appropriate treatment are

essential to reduce the risk of coronary heart disease.

Methodology

The present study was carried out at our Department. Sample size was estimated with the help of expert. With the help of 'predesigned, pretested questionnaire patients were evaluated by history, clinical examination and investigations. We included 100 patients in our study.

This work was completed during two years. Children who met the inclusion criteria were screened (around 1 -2/day). Urine for culture was sent in appropriate cases.

Consent to carry out investigations was obtained from parents of each child after explaining to them the nature of illness in terms they could understand, most often in

their own language.

Inclusion criteria

Children with fever with signs and symptoms of UTI (burning micturation, haematuria, urinary incontinence, bed wetting, abdominal pain, foul smelling urine)

Children with fever with no specific focus of infection.

Exclusion criteria

Children or infants with diagnosis of

upper respiratory tract infection, otitis media, gastroenteritis or central nervous system manifestations.

Children who have been on antibiotics prior to evaluation.

Detailed history and thorough clinical examination were undertaken according to the proforma attached. History was obtained regarding clinical symptomatology, predisposing factors, risk factors were taken.

Observations:

Table 1: Age wise distribution of total sample as per urinary symptoms

AGE	POSITIVE URINARY SYMPTOMS	NEGATIVE URINARY "SYMPTOMS
2mths-12yrs	10	11
2Yrs-5yrs	34	21
5yrs-12yrs	16	8
TOTAL	60	40

Table 2: Sex wise distribution of total sample as per urinary symptoms

SEX	URINARY SYMPTOMS POSITIVE	URINARY SYMPTOMS NEGATIVE
MALE	26	18
FEMALE	34	22
TOTAL	60	40

Table 3 : Hygiene status

BAD HYGIENE	FEMALE	MALE
+	40	32
-	16	12
TOTAL	56	44

Table 4 : Clinical Profile

S. NO.	SYMPTOMS	NO. OF CASES
1	Fever (> 100° F)	65
2	Burning micturation	42
3	Frequency	25
4	Pain abdomen	21
5	High coloured urine	12
6	Vomiting	8
7	Crying while passing urine	7
8	Haematuria	18

The above table indicates the various symptoms the patients presented with. The above data suggests that fever was a consistent finding with axillary temperature of more than 100° F in 65 cases and was a nonspecific manifestation (1). Pain abdomen was observed in 21 children and vomiting in 8 children. Older children presented with specific related to the urinary tract (burning micturation, polyuria and high coloured urine) making the diagnosis more easy. High index of clinical suspicion was necessary in infancy when symptoms were nonspecific. In infancy. Symptoms are nonspecific and may allow prolonged infection to occur prior to diagnosis and treatment.

Discussion

Febrile urinary tract infections (FUTIs) are common in children, and are associated with a bacterium between 4 and 7% of cases. No data available on the treatment of children with FUTI bacteria.⁷

In our current study, we found a variety of symptoms patients were presented with. The above data suggest that fever was associated with axillary temperature above 100 ° F in 65 cases and was an indirect manifestation (1). Painful abdomen was observed in 21 children and vomiting in 8 children. Older children were given certain information related to the urinary tract (burning micturation, polyuria and high-grade urine) which made diagnosis much easier. A high level of clinical suspicion was needed in childhood when symptoms were not

specific 9>

In childhood, symptoms are inaccurate and may allow long-term infection to occur before diagnosis and treatment. Currently, second- or third-generation cephalosporin and amoxicillin-clavulanate are the preferred drugs for the treatment of severe severe UTI. Parental antibiotic treatment is recommended for infants ≤ 2 months and any child who appears to be toxic, hemodynamically unstable, immunocompromised, intolerant to oral medication, or unresponsive to oral medication. A combination of intravenous ampicillin and intravenous / intramuscular gentamycin or third-generation cephalosporin may be used in such cases. Prevention of antimicrobial prophylaxis is rarely justified, but further prevention of antimicrobial prophylaxis should be considered in children with frequent febrile UTI.⁸

Urinary tract infections are the most common bacterial infections in children. Urinary tract infections in pediatric patients may be the first clinical manifestation of congenital renal and urinary tract infections (CAKUT) or related to bladder dysfunction. E. coli accounts for 80-90% of episodes of acute pyelonephritis in the community, especially in children. Risk factors for bacteria and the innate immune system can cause the occurrence and severity of urinary tract infections. The clinical presentation of urinary tract infections in children is very different, with less obvious symptoms. Urine culture is still the gold standard for diagnosing

urinary tract infections and urine collection methods at each facility should be determined based on the accuracy of the empty samples. The debate over appropriate thinking protocols continues and there is a tendency for less use of prophylaxis. Alternative measures and control of risk factors for recurrent urinary tract infections should be emphasized. However, in selected patients, prophylaxis can protect against repeated urinary tract infections and long-term consequences. According to human studies, high blood pressure and chronic kidney disease are rarely associated with urinary tract infections.^{9,10,11} Many aspects of urinary tract infections in

children remain controversial issues, especially photographic research and indications for antibiotic prophylaxis. Additional longitudinal studies are needed to determine the associated mechanism of urinary tract infection in childhood.

Conclusion:

The management of UTI in children can be challenging because the symptoms may be vague and vague in young children. A high level of suspicion is important. The UTI should be considered in any child under 2 years of age with a fever. On the other hand, an overdose can lead to unnecessary and potentially invasive tests.

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