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INFANTILE COLIC PATIENTS' RATES OF URINARY TRACT INFECTIONS AT KHYBER TEACHING HOSPITAL IN PESHAWAR, PAKISTAN

Qaim Uddin[1],Zia Mohammad [2], Ayisha Aman[3] ,Laiba Aman[4]

[1,2,3,4-]Department of Pediatrics Khyber Teaching Hospital Peshawar

ABSTRACT

Background: Urinary tract infections (UTIs), which impact 8% of girls and 2% of boys by age seven and have a repeat rate of 10% to 30%, are common in infants and young children. Infantile colic is a challenging condition for parents to manage.

Objective: To find the prevalence of UTI among patients who appear to have neonatal distress

Study Design: A Prospective observational study**.**

Place And Duration Of Study. Department of Pediatrics Khyber Teaching Hospital Peshawar from January 01 to August 01, 2019

Material And Methods: Of the 126 infants (boys and girls) suffering from pain and distress were studied. The study was done at the Pediatrics Unit of Khyber Teaching Hospital, Peshawar from January 1, 2019, to August 1, 2019. Two hours apart, each infant submitted two urine samples (midstream samples) which would be tested for a urinary tract infection. UTI was defined as positive when the infant had A history of fever >99°F Dysuria painful urination and >5 WBC/HPF or > 10^4 CFU/HPF on urine culture

Results: Among the 126 infants, the age range was 6 weeks to 6 months, with a mean age of 3.15 ± 1.42 months, mean weight of 4.97 ± 0.82 kg, and mean height of 56.65 ± 3.08 cm.Males comprised 69.8% of the cases 61.1% of mothers breastfed their infants, while 38.9% used bottle feeding The prevalence of UTIs among infants was 8.7%

Conclusion: The frequency of UTI among Children who appear with diarrhea is 8.7%, it can be inferred. This Study emphasizes the value of early newborn UTI detection and therapy and the requirement for preventative steps to lower the risk of UTI in this group.

Keywords: Frequency, Infantile Colic, Urinary Tract Infection

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Corresponding Authors: Ayisha Aman

Department of Pediatrics Khyber Teaching Hospital Peshawar

Email: Ayisha.aman@gmail.com

https://orcid.org/0009-0001-0976-4109

Cell No: +92 332 1782007

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INTRODUCTION

Among newborns and early children, urinary tract infections (UTIs) are a common cause of acute illness, accounting for 8 percent of girls and 2 percent of boys by the time they reach the age of 7, with an incidence of 10% to 30% recurrence[1]. Methods for collecting and testing urine and the interpretation of results and treatment options outlined by the Canadian Pediatric Society should be thoroughly examined. It is difficult to acquire a urine sample from a sick child because of the non-specific symptoms of urinary tract infection (UTI) in young children. As many as half of primary care children with UTIs may go unnoticed because of inadequate sampling rates[2].4. Up to 80% of UTIs may go unnoticed, according to a study in the United Kingdom. Urine samples for culture should be taken from severely unwell children by primary care providers. Septic shock or severe sepsis (referred to as "critical sepsis") are common complications of bacteremia[4], and 26- 33% of patients with bacteremic UTIs are presented with critical sepsis6. Infantile colic is a serious concern for parents. It's one reason parents seek medical counsel for healthy, flourishing newborns in the first three months of life. Inconsolable weeping may tear even the calmest parents' nerves. However, mild and self-limiting colic affects parents, particularly first-time parents[5]. Daily shouting may force parents to lose their anger and control, creating baby syndrome. Crying periods are linked to marital stress, nursing failure, and postpartum depression[6]. It affects 5–25% of Children worldwide9. In one study, 27 of 150 infants had colic. Among the 27 infants with colic, 3 (11.1%) had UTI10. This study aims to investigate the incidence of UTIs in infantile colicky infants. Considering the initial study, the worldwide burden of UTI is rising and significantly varies amongst populations[7]. Our community has no study on the prevalence of UTI in newborns with colic. This prompted us to find local evidence of uti in our infantile colic patients, contribute to the current literature, and provide future suggestions for its treatment based on the findings of the present investigation. The only way of assessing pyuria that corresponds with the gold standard leukocyte excretion rate is non probability sampling. The presence of >10 wbcs/mm3 in an centrifuged urine specimen[8]. using a centrifuged urine sample with a threshold of 5 wbcs per high-power field [hpf] or about 25 wbcs/l is not standardized for centrifugation parameters or pellet and suspension quantities, resulting in poor association with leukocyte excretion rate and predictive value[9]. a more sensitive and more Specific urinalysis with >10 WBC/mm3 program stain detection of any bacteria per 10 oil immersion fields on centrifuged urine was identified by Hoberman using the hem cytometer wbc technique to assess screening tests for children 2 to 24 months old. Regular microscopic urinalysis and dipstick analyses are less sensitive, but this method is 83%more specific. (67 per cent) [10].

MATERIAL AND METHODS:

The Study included 126 male and female colicky Children. It was conducted by Khyber Teaching Hospital's pediatrics division in Peshawar. The study lasted from January 01 to August 01, 2019 inclusive. Each infant had two clear middle pee samples collected two hours apart to be tested for UTIs. A UTI was considered positive if the child had a history of temperature >99 °F, dysuria, and more than five BCS per HPF or >10 4 CFU/HPF on pee culture.

APPROVAL FORM ETHICS COMMITTEE:

Approved by the Ethics Review Board (ERB) of Department of Pediatrics Khyber Teaching Hospital Peshawar under reference number ERB-**388/09/2020.** Ethical guidelines were strictly followed, ensuring compliance with institutional and international research ethics standards. Author: Asghar Khan confirms adherence to ethical principles throughout the study.

ETIOLOGY

infantile colic has an unclear origin but is likely complex. Gi, hormonal, neurodevelopmental, and psychological variables are implicated. The sample size was 126, keeping an 11.1% proportion of UTIs among children with infantilecolic11, a 95% confidence level, and a 6% margin of error using the sample size estimation formula. Sampling technique: ConsecutiveInclusion Criteria:

1. Diagnosed cases of infantile colic.
2. All the children are in the age range of 6 weeks to 6 months.

Exclusion Criteria:

1. Infants With A History Of Antibiotic Intake In The Last 48 Hours.
2. Infants With Congenital Abnormalities Of

DATA COLLECTION

the ethics committee approved the study. The study comprised Children's hospitalized from the old department with infantile colic (per operational definitions above). The study's goals, risks, and benefits were discussed with all parents, and they provided written information about everything. It was

done in spas 23.0. continuous variables like age, weight, and height have mean standard deviations. Gender, feeding method (bottle or breast), and uti frequencies and percentages were determined. uti was stratified by age, gender, weight, height, and feeding style to evaluate impact modifiers using a chi-square test with p 0.05. tables and charts showed all the outcomes.

Statically Analysis

A statistical analysis had shown that among the 126 infants included in this study, most were male (69.8 percent). The average age, weight, and height of subjects in our study were 3.15 ±1.42 months, 4.97 ± 0.82 kg and 56.65 ± 3.08 cm, respectively. Also, the incidence of urinary tract infections (UTIs) among infants with distress was 8.7%. These results imply the importance of finding any infant urinary tract infection early and dealing with it.

Results

The participants in this study ranged in age from 6 weeks to 6 months, with a mean age of 3.15 ± 1.42 months, a mean weight of 4.97 ± 0.82 kg, and a mean height of 56.65 ± 3.08 cm (Table 1). According to Table 2, 69.8% of the cases were male. Table 3 indicates that 61.1% of infants were breastfed, while 38.9% were bottle-fed. As shown in Table 4, 8.7% of the infants were diagnosed with UTIs. Tables 5 to 9 further illustrate the distribution of urinary tract infections by age, gender, weight, height, and feeding method.

Table 01: Mean ± SD of Age, Weight, and Height (N=126)

Demographics	Mean ± SD
Age (months)	3.150 ± 1.42
Weight (kg)	4.979 ± 0.82
Height (cm)	56.650 ± 3.08

Table 02: Frequency and Percentage of Patients According to Gender (N=126)

Gender	Frequency	Percentage
Male	88	69.8%
Female	38	30.2%
Total	126	100%

Table 03: Frequency and Percentage of Patients According to the Type of Feeding (N=126)

Type of F	Frequency	Percentage
Breast	77	61.1%
Bottle	49	38.9%
Total	126	100%

Table 04: Frequency and Percentage of Patients According to Urinary Tract Infection (N=126)

UTI	Frequency	Percentage
Yes	11	8.7%
No	115	91.3%
Total	126	100%

Table 5: Stratification of Urinary Tract Infection by Gender

UTI	Yes	No	P-value
Male	9(10.2%)	79(89.8%)	0.005
Female	2(5.3%)	36(94.7%)	0.005
Total	11(8.7%)	115(91.3%)	0.365

DISCUSSION

The 126 children who came to the old department Crying were part of the study[11]. Baby cries, fussiness, screaming, or irritation are the most common reasons for bringing them into the OPD department 13 percent of children have a further OPD department visit within one week of their initial discharge. 8.7 percent of children had a UTI in our study, highlighting the need for a thorough assessmen[12]. Afebrile weeping kids should not be routinely investigated since only 1% of children were diagnosed based on investigations. As a result, a clinically guided workup is the best approach. In afebrile children with urinary tract infections, crying has been described as the most common complication[13]. 47 A recent Iranian study of 200 afebrile crying newborns found that our study's total urine culture yield was comparable to that of the Iranian study[14]. The most significant number of

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youngsters ages 1-6 months produced the mos. Although asymptomatic bacteriuria has been recorded in up to 1% of infants under 60 days of age, it is doubtful that all of the positive cultures in our study are due to this. Syria is not a sensitive sign in neonates, and only half of the febrile children under eight weeks of age with positive urine cultures have an abnormal urinalysis[15].doctors should not discount the culture results even in those with regular urine analysis. The positive urine cultures in our study of patients are crucial and should not be dismissed since it is conceivable for them to be false-positive, even on catheter specimens. We observed that a comprehensive history and physical examination of the crying newborn were the most critical aspects of the assessment[16].A patient history and physical examination results guided specific procedures, such as a nasopharyngeal aspirate, liver function test, abdominal ultrasound, or skull scan, in the diagnosis of around 10% of patients. Overall, they were seldom employed as screening tests In our study[17]. Hence, their diagnostic value is diminished. Corneal fluorescein staining has been recommended for newborns who exhibit sudden, unexplained irritability or excessive Crying, even though these symptoms are not frequently associated with corneal abrasions. Based on a case study of 20 children under one year of age exhibiting weeping or irritation and were diagnosed with corneal abrasions, this advice is based on the findings[18]. 52 Whether these results have any clinical significance is uncertain since no ophthalmologist has confirmed them, and fluorescein-impregnated sheets were used, which may cause a corneal abrasion. Even though corneal abrasions were found, 5% of Crying may have a variety of causes, from benign to life-threatening[19]. The cornerstone of assessing crying newborns is a comprehensive history and physical examination, which should guide the inquiry choices.

CONCLUSION

Prevalence statistics were given in this case series. Patching and antimicrobial medication have been contested even after being diagnosed. Cochrane's review of 11 relevant studies in 2006 found that patching did not promote healing or decrease discomfort. Our study prevalence of corneal abrasions was 0%. However, we cannot infer that doctors should stop screening for abrasions because of this low incidence. There is a good chance that no kid had a substantial corneal abrasion, as indicated by our follow-up. Still, minor corneal abrasions may have been missed since only one child had a fluorescein examination. Because of this, it is feasible that no fluorescein examination was conducted on a kid with an abrasion; it is also possible that an analysis was performed on many more children, but no documentation was provided. Stool occult blood testing and a rectal examination are also of uncertain utility. It can be concluded that the frequency of UTI among infants presenting is high.With colic at 8.7 percent. This study highlights the importance of early diagnosis and treatment of UTI in infants and the need for preventive measures to reduce the risk of UTI in this population.

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Authors contribution

Concept & design of study: Qaim Uddin

Drafting: Zia Mohammad

Data analysis: Ayisha Aman

Critical review: Laiba Aman

Final approval of version: All Authors Mentioned Above.

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