

Letters to the Editor

Urine Culture in Young Febrile Children

In a recent Editorial on 'Urinary Tract Infection' (UTI), Dr. Mehta has stated: "In infants, fever is the most definite clue especially without any focus of infection. Urine culture is mandatory in every febrile child with acute illness. Urinary complaints are rare and only after 5 years of age the typical triad of abdominal pain, vomiting and fever with chills or suprapubic pain are common presentations of upper and lower UTI. Hence a high index of suspicion should be maintained by practicing pediatricians during the first 5 years and Urine culture ordered whenever required."(1).

In another related article(2), Dr. Srivaths *et al.* have stated: "The prevalence rate of 2.48% of UTI in infants in the present study is the lowest reported from a developing country and is similar to the prevalence reported from developed countries. Since this prevalence rate is not significantly different from the controls we do not recommend routine urine culture of all febrile infants."(2). They further state: "We conclude that screening all febrile children for identification of UTI may not be cost effective. Limiting the screening to febrile infants with diarrhea or septicemia may be cost effective as the pick up rate will be higher. Urine microscopy and Gram stain smear examination should be mandatory in these high risk children. Significant pyuria and bacteriuria in urine will guide to the presence of UTI and warrant a urine culture and further evaluation of genitourinary tract."(2).

Dr. Mehta has cited 14 references and Dr. Srivaths *et al.* have cited 9 references in their articles. On perusal, it was observed that not even one reference was common to both the lists. This perhaps reflects the fact that authors of both articles belong to two different schools of thought. I seek a clarification whether urine culture is mandatory or not in every febrile child with acute illness.

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REFERENCES

1. Mehta KP. Urinary tract infection. *Indian Pediatr* 1996, 33:173-176.
2. Srivaths PR, Rath B, Krishan Prakash S, Talukdar B. Usefulness of screening febrile infants for urinary tract infection. *Indian Pediatr* 1996, 33: 218-220.

Reply

Dr. Yash Paul has raised an important question whether every febrile infant should have a urine culture. As I pointed out in the editorial there are a number of controversies in the diagnosis of UTI and a practicing pediatrician has to develop her or his own clinical judgement with reference to ordering urine culture in the same fashion as blood count or blood cultures. In our institution, urine culture is not asked for if the febrile illness is during an epidemic of viral fever or if other family members have similar fever or if child otherwise looks "well" or has a focus of infection in the ear, throat, lungs, etc. Urine culture is mandatory if fever is

associated with chills or rigors or if child is anemic, has poor weight gain or looks "ill", or is irritable or is vomiting or passes turbid or foul smelling urine. The concerned pediatrician should *scrutinize the child's history and physical findings carefully with a high index of suspicion and order urine culture whenever required.*

The references quoted in this editorial are from data published in 90's which clearly give a message that a pediatrician should not miss the diagnosis of UTI in a febrile child below 2 years of age because febrile UTI is likely to be associated with vesicoureteral reflux (VUR) or obstructive lesions; the incidence of VUR is 1:250. What answer will one give to the parents of a child in whom the diagnosis of UTI was missed in infancy because urine culture was not asked for during episodes of fever and subsequently he/she developed reflux nephropathy. A negative urine culture in a febrile child is reassuring to the parents and pediatricians alike.

As far as cost effectiveness is concerned, it is more expensive to treat cases who develop chronic hypertension or chronic renal failure, end stage renal disease or toxemia of pregnancy than cost of urine cultures in suitable cases with fever in childhood.

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Reply

We thank Dr. Yash Paul for the interest in our article. Dr. Mehta in her editorial had mentioned UTI to be the 'third most common cause of fever in children and in such a situation one may be justified in asking for a urine culture for every febrile subject. In fact, obtaining urine cultures for every febrile child would be ideal from

a Pediatric Nephrologist's point of view. However, we attempted to highlight the reality based on an investigation conducted in a typical developing country scenario. We differ from Dr. Mehta's opinion that UTI is the third common cause of fever in India. Other infections including respiratory tract infections, diarrhea, tuberculosis, typhoid, malaria, *etc.* are so rampant in our country that UTI accounts for only a small fraction of children with fever. Further, there is no reason to culture the urine when the cause of fever is obvious and does not relate to the urinary tract. Moreover ours being a developing country, we have severe resource constraints. Hence" one has to be choosy in selecting cases for urine culture to get the maximum benefit with minimum expenditure. It is in this context that we wished to share our own experience.

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Comments

Dr. Yash Paul has asked an important question. Should urine culture be obtained in every infant who has fever without an obvious cause? Dr. Mehta in her editorial has given the standard recommendation. I agree that urine must be examined in such cases to detect UTI.

It is however, very likely that in our country occasional instances of unexplained fever in infants are usually not due to UTI. The most frequent causes of fever are upper respiratory infections, otitis media (incidentally, pediatricians do not routinely examine the ears in their patients), diarrhea and nonspecific viral infections. In 201 patients with fever, Srivaths *et al.* detected UTI in five cases, four of whom had diarrhea.