Selected Summaries

UTI in Nephrotic Syndrome

[Gulati S, Kher V, Arora P, Gupta S, Kale S. Urinary tract infection in nephrotic syndrome. Pediatr InfDis } 1996,15: 237-240.]

To study the frequency, etiology and predisposing factors of urinary tract infection(UTI) in children with nephrotic syndrome, a retrospective analysis was performed of all children with nephrotic syndrome, being followed up from May1988, to May 1994. Urine was cultured in the following circumstances: *(i)* as a screening investigation before initiation of steroid therapy; *(ii)* in all children with steroid non response, *i.e.,* who did not respond to a standard 4 week course of steroids; and *(iii)* in patients in remission with symptoms suggestive of UTI such as fever, dysuria or hematuria.

UTI was found to be the most common infection (40.26%); 49 episodes of culture-positive UTI were observed in 37 children. All 49 episodes occurred in patients who were initially considered to be steroid non responders or in relapse. Fourteen of the 49 episodes (28.6%) were asymptomatic. One child had Grade IV reflux and another had a ureteric calculus. The majority of the children had no underlying urinary tract malformation. The children with UTI had significantly lower serum albumin ($p < 0.05$) and higher serum cholesterol ($p < 0.001$) concentrations than the group of 206 children without infections. Non *Escherichia coli* organisms accounted for 39% of the culture isolates.

Authors recommend that UTI being an important but often under diagnosed infection, all children with nephrotic syndrome in relapse or steroid non-response should be screened for the presence of UTI.

Comments

Factors which result in high frequency of UTI in children with nephrotic syndrome may be both local as well as systemic. Locally, the pressure on the collecting system by edematous pyramids causes narrowing and functional obstruction to the flow of urine predisposing them to UTI. The child with nephrotic syndrome represents an immunocompromized host and hence is susceptible to a variety of infections. This could be result of decreased serum immunoglobulin concentrations, protein deficiency, decreased bactericidal activity of the leukocytes, immuno-suppressive therapy, decreased perfusion of the spleen caused by hypovolemia and loss in the urine of a complement factor (Properdin factor 3) that opsonizes certain bacteria(l).

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REFERENCE

1. Bergstein JM. Nephrotic syndrome. *In:* Nelson's Textbook of Pediatrics. Eds Behrman RE, Kliegman RM, Vaughan VC, Nelson WE. Philadelphia W.B Saunders. Co, 1992, pp 1129-1132.

NOTES AND NEWS

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