Purpose Tuberous sclerosis complex (TSC) is an inherited neurocutaneous disorder that is characterized by pleomorphic features involving many organ systems. Renal manifestations are the second most significant cause of morbidity and mortality in patients with tuberous sclerosis complex (TSC), and include renal cysts, angiomyolipomas (AMLs) and malignant tumors. In this study, we investigated patients with tuberous sclerosis in our clinic for renal involvement.

Methods In our clinic, the renal manifestations of children with TSC between 0–18 years of age were evaluated. Age of the first diagnosis, TSC history of family, renal ultrasonography findings of angiomyolipomas and cysts such as size, quantity, location, renal function tests, urinalysis, presence of hypertension, additional organ involvement, and the presence of renal cell carcinoma were assessed.

Results There were 17 (8 male and 9 female) patients with TSC. The mean age of the patients was 11.6 years and first diagnosis time was 2.3 years. Angiomyolipoma was the most frequent lesion (15 of 17 patients) and twelve of them were bilateral. At the time of diagnosis 3 patients had angiomyolipomas. The sizes of AMLs of the patients were smaller than 5 cm. Six patients had also renal cysts and 2 of them with renal cysts had no AML. Additional organ involvement was observed in 3 patients. All of the patients had normal renal function tests and urinalysis.

Conclusion The most common renal lesions in TSC are angiomyolipomas and kidney cysts. At the time of TSC diagnosis, all the children must be screened for renal involvement and changing of renal findings in TSC with time should not be forgotten since the new findings can be added to old ones.

REFERENCES

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CAN WE RELY ON PYURIA TO DIAGNOSE URINARY TRACT INFECTION IN CHILDREN?
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Urinary Tract Infections (UTI) occurs in up to 7% of febrile infants and young children (1). The most common uropathogen is Escherichia coli (E.coli) (2). Presence of pyuria (>10 WBC/mm3) on urinalysis is essential to diagnose UTI (2). We set out to examine whether there is a link between the absence of pyuria and a positive urine culture for a known uropathogen.

This was a retrospective cohort study of 248 patients admitted with symptomatic UTI between January 2015 and December 2016. Mean (SD) age was 31.27 (42.54) months and 101 (40.7%) patients were male. Of 248 patients with UTI, E. coli was documented as the causative pathogen in 221 cases (89.1%), Klebsiella species in 8 (3.2%), Proteus species in 8 (3.2%), Pseudomonas species in 7 (2.8%), Enterococcus species in 3 (1.2%) and Group B streptococcus in 1 (0.4%). All patients with UTI due to E.coli infection exhibited > 10 WBC/mm3 on urinalysis (p value 0.001). However, in those with UTI caused by non-E.coli uropathogens, < 10 WBC/mm3 on urinalysis was documented in two of eight (25%) patients with UTI secondary to Proteus infection, two of eight (25%) individuals with Klebsiella UTI, one of seven (14.3%) patients with UTI due to Pseudomonas infection and one of three (33.3%) patients with UTI caused by Enterococcus species.

In conclusion, 9 in 10 patients with UTI experienced E.coli uropathogen on urine culture. Pyuria with > 10 WBC/mm3 on urinalysis was documented in all patients with E.coli uropathogen. However approximately one fifth of patients with UTI due to non-E.Coli uropathogens experienced absence of pyuria on urinalysis. Considering the possibility of absence of pyuria in those with UTI due to non-E.coli uropathogens, using reliable adjunctive biomarkers in diagnosis UTI while waiting urine culture need to be explored through further research.

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