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**URINARY  $\alpha$ 1-MICROGLOBULIN AND MICROALBUMIN LEVELS-MARKERS OF RENAL TUBULAR FUNCTION IN FEVER STATES**

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Increased urinary microalbumin and  $\alpha$ 1-microglobulin levels constitute markers of glomerular and tubular dysfunction, respectively.

The aim of the present study was to determine the effect of fever on urinary  $\alpha$ 1-microglobulin and microalbumin excretion levels.

**METHODS:** 198 children up to 14 years old, with fever ranging from 38°C-40.5°C, whose duration was from 12 hours to 8 days, participated in the study. None of them had either urinary tract infection, history of renal disease or received antibiotics on admission. Multiple urinary samples were taken to determine  $\alpha$ 1-microglobulin ( $\alpha$ 1), microalbumin (L),  $\alpha$ 1/creatinine ( $\alpha$ 1/cr) and L/cr ratios at the time of fever as well as 24 hours and 7 days after it had dropped. 396 healthy sex and age matched children comprised the control group. The Mann-Whitney test was used for comparison purposes.

**RESULTS:** All values were significantly higher in the patient than in the control group at the time of fever ( $\alpha$ 1=12.23 $\pm$ 21.22 versus 1.61 $\pm$ 4.98,  $\alpha$ 1/cr =0.13 $\pm$ 0.23 v. 0.147 $\pm$ 1.31, L= 38.85 $\pm$ 67.16 v. 13.79 $\pm$ 12.43, L/Cr=0.48 $\pm$ 0.79 v. 0.123 $\pm$ 0.108) as well as 24 hours after normalization of temperature ( $\alpha$ 1= 10.65 $\pm$ 19.17 ,  $\alpha$ 1/cr=0.10 $\pm$ 0.18, L= 21.72 $\pm$ 31.98, L/Cr=0.24 $\pm$ 0.33) (p<0.001). In contrast, 7 days later, the above values were not significantly different from the normal group ( $\alpha$ 1=6.05 $\pm$ 13.13,  $\alpha$ 1/cr=0.11 $\pm$ 0.24, L=11.19 $\pm$ 12.26, L/Cr=0.18 $\pm$ 0.18).

**CONCLUSION:** Our data shows that  $\alpha$ 1, microalbumin,  $\alpha$ 1/cr and L/cr values increase during febrile states, thus providing effective means of assessing and monitoring glomerular and tubular function. Restoration of normal values begins shortly thereafter and 7 days later, no significant differences from the normal group occur.

