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SIGNALS OF GLOMERULOPATHY ASSOCIATED WITH THE CIRCULATING ANODIC ANTIGEN LEVELS IN SCHISTOSOMA MANSONI-INFECTED PATIENTS IN BRAZIL

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INTRODUCTION: Schistosomiasis kidney involvement is poor investigate. Schistosomal glomerulopathy is the main findings (incidence ranging from 5-6%, increasing to 15% in severe hepatosplenic form). The increased parasitic load and it impacts with renal abnormalities have not yet been investigated and glomerular involvement may be decisive for the further development of chronic kidney disease (CKD). The aim of this study is to i**nvestigate** the association between the circulating anodic antigen levels and glomerular damage using urinary biomarkers associated with glomerular injury in *S. mansoni*-infected patients.

METHODS: Samples of feces and urine were collected from individuals from the Bananeiras community - Capistrano municipality in the State of Ceará - Brazil. The up-converting phosphor-lateral flow circulating anodic antigen (UCP-LF CAA) assay in urine was used for *Schistosoma mansoni* diagnosis. Standard curves of CAA spike in negative urine were used to quantify CAA levels (pg/mL urine) in the clinical samples. After diagnosis, two groups were enrolled: positive and negative diagnosis groups. Regarding urinary biomarker, was quantified albuminuria by immunoturbidimetry (Cobas C111, ROCHE ®) and proteinuria by colorimetric method (Labtest ®). Moreover, urinary oxidative strees was assessed using determination of urinary malonaldehyde (MDA) that reacts with thiobarbituric acid (TBARS). Finally, urinary biomarkers of podocyte injury (uVEGF) and of glomerular inflammation (uMCP-1) were determined by immunoassay (ELISA, R&D Systems ®). All urinary biomarkers were expressed by urinary creatinine ratio.

RESULTS: Recruited *S. mansoni*-infected patients had mean age of 29 ± 19 and 37 (46%) were male. Positive (PG) and negative (NG) groups had 40 individuals each. All groups had no individuals with signals of clinical renal disease. When urinary biomarkers were compared between groups no significant differences were observed. However, after stratified the PG according to the CAA percentile 75 (less or bigger than 4.0 pg/ml), was observed in "bigger than 4.0 pg/ml" group increased levels of uVEGF, albuminuria and proteinuria, but only uVEGF was statistically significant (median=48.9 and interquartile range of 26.0 – 93.5 vs 23.3 (13.5 – 42.5) mg/g-Cr, p=0.30). Importantly, only uVEGF was correlated with CAA levels (r=0.391, p=0.020). Moreover, uVEGF had significant correlation with albuminuria (r=0.491, p=0.002), proteinúria (r=0.607, p<0.001) and uMCP-1 (r=0.464, p=0.003), but no correlation with uMDA.

CONCLUSIONS: The *Schistosoma* circulating anodic antigen levels were associated with increased signals of glomerular damage that may be associated with podocyte injury. Further studies are needed to analyze the long-term impacts of initial infection.