

TITLE: SERUM AND URINARY LEVELS OF *Paracoccidioides* spp. SOLUBLE ANTIGENS IN PATIENTS WITH PARACOCCIDIOIDOMYCOSIS

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ABSTRACT:

Paracoccidioidomycosis (PCM) is a systemic mycosis caused by *Paracoccidioides brasiliensis* as well as the new species, *Paracoccidioides lutzii*. Serology by the determination of the levels of specific antibodies is widely used as a tool for diagnosis and follow-up. Nevertheless, the determination of antigen levels is more effective as a cure criterion and, therefore, the evaluation of antigenemia or noninvasive detection of antigens in urine have been introduced. Current research evaluated and correlated the serum and urinary levels of *Paracoccidioides* spp. soluble antigens in patients with PCM. Antigens levels were determined in serum and urine samples from chronic PCM patients (n = 13), using rabbit IgG to total soluble antigens [anti-cell free antigen (CFA) from *P. brasiliensis* B339 and *P. lutzii* LDR2] by indirect competitive ELISA (ic-ELISA). The concentrations of antigens in the samples were calculated based on the standard curve (6 ng/mL – 100 µg/mL). Protein serum levels in ic-ELISA were 47.5 µg/mL and 37.2 µg/mL with anti-*P. brasiliensis* and anti-*P. lutzii*, respectively, without significant difference (p-value > 0.05). The urinary levels were 3.1 µg/mL and 1.9 µg/mL, with anti-*P. brasiliensis* and anti-*P. lutzii*, respectively, with significant difference (p-value < 0.05). Serum antigen levels were higher than urinary levels with both antibodies (p-value < 0.05). There was a positive correlation between urinary antigen levels (r=0.806), but not in serum levels (r=0.241). In conclusion, a lower proportion of antigens is detected in urine, suggesting that the determination of antigenemia is a more effective approach. Additionally, the determination of antigenemia is not affected by the use of anti-*P. brasiliensis* (B339) or anti-*P. lutzii* (LDR2), but the use of the two antibodies could contribute with greater coverage.

Keywords: Antigenemia; Antigenuria; *Paracoccidioides brasiliensis*; *Paracoccidioides lutzii*, Serodiagnosis.

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