

J

volume 30 | number 2 | pages 101–166 | April 2010

Autonomic & Autacoid Pharmacology



 **WILEY-
BLACKWELL**

ISSN 1474 8665 (Print)
ISSN 1474 8673 (Online)

PLENARY LECTURES

Immunoprophylaxis and immunotherapy with ‘urostim’ in patients with chronic urinary tract infections

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Urinary tract infections (UTIs) are among the most widely spread infections in humans and are serious problem in medical practice, because of frequent use of antibiotics which leads to appearance of polyresistant bacteria. This fact points the attention on new alternative approaches for prevention and control of UTIs, as mucosal vaccines and immunomodulators. The oral polybacterial preparation Urostim (U) composed of killed whole cells and lyzates from *E. coli*, *P. mirabilis*, *K. pneumoniae* and *E. faecalis* has been successfully applied in clinical practice for immunoprophylaxis and therapy of UTIs. In this study the immune and clinical effects of U (50 mg daily for 3 months) in 88 patients with chronic pyelonephritis were investigated. Immunological results demonstrated a significant improvement of non-specific and specific lymphoproliferative responses, confirmed by electron-microscopic data. At the same time the levels of serum proinflammatory cytokines decreased with the improvement of chronic inflammation. U stimulated humoral systemic and mucosal immunity, with production of antibacterial antibodies (Abs) with specific dynamics: in patients with low pre-treatment levels an increase of salivary S-IgA, IgG, IgM and serum IgA, IgG, IgM Abs was found; in patients with high initial levels a drop of Abs was registered followed by an increase. Clinical results: Before and after treatment with U for a period of 12 months the clinical/laboratory picture of the disease was observed: frequency and severity of UTIs exacerbations, laboratory characteristic for activity of infection, microbiological data for causative agents and laboratory parameters for basic renal functions. A significant decrease of the number of active UTI episodes for 12 months after the beginning of U application in comparison with the previous year was found in all patients, with milder clinical picture of exacerbations and no changes in basic renal functions. There were no differences observed in patients with additional night prophylaxis compared to patients treated with U only. In conclusion, our data show that U is a powerful immunogen and immunomodulator stimulating the immune system for intense cellular and humoral systemic and mucosal immune responses and has a positive clinical effect in patients with chronic UTIs, demonstrated by a significant decrease of number of active episodes for 1 year after the beginning of treatment and milder clinical picture of exacerbations.