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INCREASED URINE LEVELS OF MACROPHAGE MIGRATION INHIBITORY FACTOR IN PATIENTS WITH ACUTE CYSTITIS AND INTERSTITIAL CYSTITIS

Hypothesis / aims of study
Macrophage migration inhibitory factor (MIF) is a proinflammatory cytokine that is associated with inflammatory process in acute cystitis, but not clear in interstitial cystitis. We measured MIF levels in urine of patients with acute cystitis and interstitial cystitis.

Study design, materials and methods
Urine samples were collected from 30 healthy female volunteers (control group, mean age 36.3±8.9years), 40 patients with acute cystitis (mean age 42.7±14.8years), and 40 patients with interstitial cystitis (mean age 48±14.2years). Quantitative measurement of urine MIF level was analyzed using Human MIF DY289 ELISA kit (R&D systems, Inc. Minneapolis, MN, USA), and adjusted by urine creatinine level.

Results
Mean level of urine MIF adjusted by urine creatinine were 0.91ng/ml in control group, 14.41ng/ml in acute cystitis, and 7.10ng/ml in interstitial cystitis, We found that urinary MIF was increased in patients with acute cystitis and interstitial cystitis compared with control group ($p=0.002$, $p=0.021$).

Interpretation of results
Mean level of urine MIF in acute cystitis (14.41ng/ml) and IC group (7.10ng/ml) were higher than control group (0.91ng/ml) ($p<0.05$).

Concluding message
MIF is a precursor of an inflammatory reaction and it acts by reacting with many inflammatory cytokines. Our data indicate that MIF may participate in the pathogenesis of not only acute cystitis but also interstitial cystitis.

References
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2. BMC Urol. 2006 Sep 18;6:24. Substance P induces localization of MIF/alpha1-inhibitor-3 complexes to umbrella cells via paracellular transit through the urothelium in the rat bladder.

Disclosures
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