CORRELATION AMONG URINARY INFECTION, OVERACTIVE BLADDER AND VAGINAL PH

Hypothesis / aims of study
Vaginal pH is well known as an important factor in recurrent lower urinary tract infection in female. In this study, we investigated the correlation of vaginal pH with the history of recurrent lower urinary tract infection and lower urinary tract symptoms (LUTS).

Study design, materials and methods
110 female LUTS patients were randomly selected. Data of patients’ previous histories of recurrent lower urinary tract infections, current lower urinary tract symptoms, vaginal pH, and urinalysis with urine culture using catheterized urine were collected and analyzed. Normal vaginal pH was defined as range within 4.0-5.0. Correlation between vaginal pH and the presence of recurrent infection or LUTS were statistically analyzed with significance of p<0.05.

Results
Age positively correlated with vaginal pH (p=0.000) and cystitis (p=0.035)(Fig 1). However, vaginal pH did not show any significant correlation with the occurrence of cystitis (p=0.258)(Fig 2). Overactive bladder showed significant correlation with age (p=0.05) but not with vaginal pH (p=0.376)(Fig 3).

Interpretation of results
Lower urinary tract infection and overactive bladder increased with aging. Vaginal pH also correlated with aging. However, conversely to common knowledge, vaginal pH after age adjustment did not show any significant correlation in development of LUTS or infection.

Concluding message
Common knowledge is that acid vaginal environment is essential for adequate lower urinary tract protection, and increasing vaginal pH provides easier condition to get bacterial cystitis or LUTS. These supported the background the some probiotic therapy. In this study, we did not confirm any significant correlation between vaginal pH and lower urinary tract infection or symptoms.

Specify source of funding or grant
none

Is this a clinical trial? No

What were the subjects in the study? HUMAN

Was this study approved by an ethics committee? No

This study did not require ethics committee approval because retrospective chart review

Was the Declaration of Helsinki followed? Yes

Was informed consent obtained from the patients? Yes