

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.

Fig 1. Age and vaginal pH

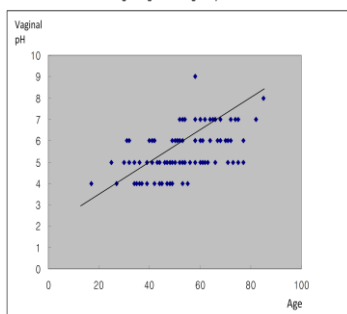


Fig 2. Prevalence of cystitis with increasing aging

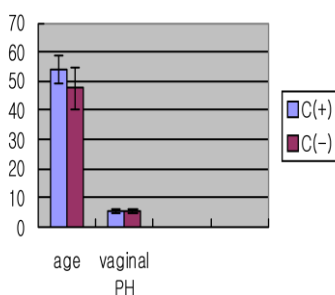
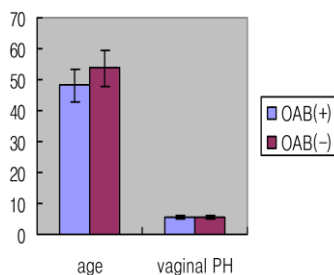


Fig 3. Prevalence of OAB with increasing aging and vaginal pH



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