

CORRELATION BETWEEN URINE DIPSTICK AND URINE CULTURE IN SCREENING WOMEN WITH URINARY INCONTINENCE FOR URINARY TRACT INFECTION

Aims of Study

The aim of this study is to ascertain if a urine dipstick would be sufficient in screening women with urinary incontinence and or pelvic organ prolapse for urinary tract infections.

Methods

The medical records of all women presenting with urinary incontinence and/or pelvic organ prolapse to the Urogynecology practice at our institution between November 2000 and September 2001 are evaluated. Excluded are those patients with a history of recent or recurrent urinary tract infection or microscopic hematuria. The results of the urine dip stick and the results of the urine culture both from a specimen obtained by intermittent catheterization are recorded. A urine dipstick is considered positive if leukocytes and/or nitrites are present. A urine culture is considered positive if greater or equal to 100,000 colonies of a uropathogen are present. The results of the urine dipsticks and of the urine cultures are reported as positive or negative for each patient and analyzed for correlation.

Results

A total of 200 urine dipsticks and urine cultures have been evaluated. Seventeen of the 200 urine cultures grew out a single organism. Of these seventeen positive urine cultures, ten had a positive urine dipstick. Of the 183 negative urine cultures, 174 had a negative urine dipstick. In nine of the patients the urine dipstick was positive while the cultures remained without growth. The sensitivity of a urine dipstick in our cohort of women presenting with urinary incontinence and/or pelvic organ prolapse is 58.8%. The specificity of a urine dipstick for this patient group is 95.1%, while the positive predictive value is 52.6% and negative predictive value is 96.1%

Conclusions

While the negative predictive value and the specificity of a urine dipstick are good, the sensitivity and positive predictive value of this test in women presenting with urinary incontinence and/or pelvic organ prolapse are low. Seven of seventeen women with urinary tract infection would not have been identified by a urine dipstick. In order to identify these seven patients with urinary tract infection by urine culture, the additional cost per urinary tract infection is \$1086. This is assuming the cost per urine culture to be \$40. It is more difficult to estimate the costs saved by treating the urinary tract infections that were missed by a urine dipstick. Such potential costs are hospital admissions for pyelonephritis or urosepsis and unnecessary treatment for urinary incontinence.