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Title (type in
CAPITAL
LETTERS)EVALUATION OF PATIENTS WITH DETRUSOR INSTABILITY
OR MIXED INCONTINENCE: IS ROUTINE CYSTOSCOPY COST-
EFFECTIVE?

Aims of Study: To evaluate the cost-effectiveness of routine cystoscopy in women with a diagnosis of detrusor instability or mixed incontinence.

Methods: A retrospective review was conducted on patients referred to the Women's Continence and Pelvic Surgery Center for symptoms of urinary incontinence. One hundred seventeen patients with the diagnosis of detrusor instability or mixed incontinence, as determined by multichannel urodynamic testing in compliance with ICS criteria, were studied. All patients underwent routine cystoscopic evaluation to rule out bladder malignancy, interstitial cystitis, urethral diverticulum, or other structural abnormalities causally related to urinary incontinence. The costs of performing multichannel urodynamic testing and routine cystoscopy in the evaluation of detrusor instability and mixed incontinence were estimated using an Activity Based Cost (ABC) model.[1] The prevalence of cystoscopic diagnoses in our cohort was compared to the prevalence in the general female population. To determine cost-effectiveness, a hypothetical evaluation strategy using urodynamic testing alone was compared to the strategy using urodynamic testing and routine cystoscopy. Sensitivity analyses were performed to evaluate the data using different population parameters.[2,3]

Results: Routine cystoscopic evaluation revealed the following abnormalities: 7 cases of urethral diverticulum, 2 cases of interstitial cystitis, 0 bladder malignancies, 0 fistulas, and 0 ectopic ureters. The cost per cystoscopy was \$118.00 as determined by the ABC method [1], which was similar to the Medicare reimbursement rate of \$122.50. The cost per urodynamic test was \$750.00, as determined by the ABC method, whereas the Medicare rate was \$419.14. The total cost of the urodynamic testing only strategy was \$87,750, whereas the total cost of the cystoscopy-added strategy was \$101,556. The incremental cost-effectiveness value for cystoscopic assessment was \$1,534 (cost per cystoscopic abnormality identified). This incremental cost was compared to the costs associated with missed diagnoses using the urodynamic testing-only strategy. The cost of an undetected urethral diverticulum may range from \$6,000 to \$40,000, if an inappropriate surgical procedure is performed. As compared to the general population, a significantly higher prevalence of interstitial cystitis (1.7% vs. .0012%; $p < 0.001$, Binomial Test) was observed. However, a similar rate of urethral diverticulum and bladder malignancy was observed in the study and general female populations.

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Conclusion: This study presents a relatively modest cost for detecting urethral and bladder pathology that may significantly alter medical and/or surgical management. Those patients with an undiagnosed diverticulum may undergo inappropriate surgical therapy for their incontinence which may exceed \$6,000. Health care organizations are concerned with improving clinical outcomes while eliminating unnecessary resource consumption. As physicians challenge traditional care that has not been tested through an evidence-based approach, common diagnostic strategies must be evaluated for cost-effectiveness. In this population, routine cystoscopy is cost-effective in the evaluation of detrusor instability and mixed incontinence.

References:

- [1] Activity-based costing in the development of clinical pathways. Phys Exec 1999, in press.
- [2] Cost-effectiveness and cost-benefit analyses in the medical literature. Ann Int Med 1992; 116: 238-44.
- [3] Foundations of cost-effectiveness analysis for health and medical practices. N Engl J Med 1977; 296: 716-21.