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Title: THE ROLE OF ROUTINE CYSTOSCOPY IN UROGYNECOLOGIC SURGERY

Aims of Study:

To examine the frequency of significant cystoscopic findings during vaginal prolapse and incontinence surgeries and determine if incidence warrants routine use of cystoscopy.

Methods:

The charts and operative reports of 259 patients who underwent routine cystoscopy with intravenous injection of indigo carmine at the time of their urogynecologic or pelvic reconstruction operative procedures between January 1997 and December 1999 were reviewed. We determined the incidence of significant cystoscopic findings and examined if these findings changed intraoperative management. Two-tailed t-tests and logistic regression analysis were used to compare characteristics between the groups with and without significant cystoscopic findings to determine if any preoperative risk factors were identifiable.

Results:

259 women underwent 105 abdominal Burch procedures (40.5%), 26 vaginal Burch procedures (10.0%), 36 transvaginal slings (13.9%), 26 fascial suburethral slings (10.0%), 12 fascial bone anchor slings (4.6%), 9 vaginal wall bone anchor slings (3.5%), 2 Vesica procedures (0.8%), 1 Pereyra procedure (0.4%), 1 laparoscopic Burch (0.4%), and 1 Kelly-Kennedy Plication (0.4%). 40 patients (15.4%) had no incontinence procedure performed. 10 of 259 patients (3.8%) were found to have significant findings on cystoscopy. 8 (3.1%) were unsuspected before cystoscopy. Of the 10 total cases, 6 (2.3%) resulted in changes in intraoperative management, including 2 cases of intravesical sutures (0.8%) which both occurred during abdominal Burch procedures, 1 left ureteral kinking (0.4%) caused by anterior colporrhaphy, 1 puckering of bladder mucosa (0.4%) where anterior colporrhaphy sutures were removed and then replaced, and 1 suspicious appearing bladder polyp requiring biopsy (0.4%). 1 case of a transvaginal Burch had poor right ureteral efflux resulting in ureteral stent passage and an intraoperative IVP which revealed a hypofunctioning right kidney (0.4%). Of the remaining 4 cases, 2 cases had cystotomy during retropubic dissection for abdominal Burch procedures recognized before cystoscopy (0.8%), 1 case had an incidental cystotomy during vaginal wall bone anchor sling not requiring repair (0.4%), and 1 case had pinpoint bleeding seen at the bladder neck with an abdominal Burch procedure but no evidence of suture (0.4%). There were no unrecognized injuries causing morbidity postoperatively. There were no significant differences between patients with abnormal and normal cystoscopic findings in regard to mean age, weight, smoking, parity, estimated blood loss, previous surgery, or previous incontinence surgeries. Of 40 patients (15.4%) with no incontinence procedure performed, there were no injuries found during cystoscopy. Four of 132 women (3.0%) having Burch procedures had injuries to the

lower urinary tract, of which only two were unrecognized prior to cystoscopy. This rate of injury (3.0%) is lower than the 9-10% rate recently reported for Burch procedures [1,2]. No complications or morbidity occurred as a direct result of intraoperative cystoscopy.

Conclusions:

The use of intraoperative cystoscopy with intravenous indigo carmine is a safe and effective way to detect injury of the lower urinary tract. Given the increased baseline risk to the lower urinary tract during incontinence and complex urogynecologic surgeries, intraoperative cystoscopy should be an integral part of such procedures. Cystoscopy during gynecologic surgeries without incontinence procedures may not be necessary.

References:

[1] Stevenson KR, Cholhan HJ, Hartmann DM, Buchsbaum GM, Guzick DS. Lower urinary tract injury during the Burch procedure: Is there a role for routine cystoscopy? Am J Obstet Gynecol 1999;181:35-8.
[2] Harris RL, Cundiff GW, Theofrastous JP, Yoon H, Bump RC, Addison WA. The value of intraoperative cystoscopy in urogynecologic and reconstructive pelvic surgery. Am J Obstet Gynecol 1997;177:1367-9.