

Original Article

Experience of a Combined Gynecology/Urology Clinic in the University of Michigan Medical Center

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Abstract: Over a period of 30 months, 200 patients were seen in the combined gynecology/urology clinic of the University of Michigan Medical Center. Ninety-nine patients (49.5%) were referred by urologists and 86 (43%) by gynecologists. The mean number of visits by patients to the clinic was 1.7, with a range of 1–3; 78 patients (39%) visited the clinic on just one occasion; 116 patients (58%) had undergone previous gynecologic and/or urologic surgery. At least one diagnosis was confirmed in 183 patients (91.5%). A total of 151 operations were performed, 43 (28.5%) by gynecologists and urologists working together.

Keywords: Genital prolapse; Gynecology/urology clinic; Pelvic pain; Pubovaginal sling; Sacrospinous ligament suspension; Urinary incontinence

Introduction

Despite treating many female patients with similar and related conditions, not all gynecologists and urologists are accustomed to working closely together. Patients are often referred from one to the other after diagnostic or treatment failure. Professional rivalry all too often interferes with the relationship between both groups. In the University of Michigan Medical Center there is a tradition of close cooperation between both disciplines, best represented by the combined gynecology/urology

clinic. This clinic has been held once per month since 1989 and is organized and staffed jointly by both services. The rationale behind this unique endeavor is to perform simultaneous urologic and gynecologic assessments in female patients with complex urogynecologic symptoms (in whom independent assessment had proven or is considered suboptimal), to confirm diagnoses and to plan effective treatment. The clinic also provides an excellent training forum for the fellows, residents and medical students attached to both services, and has promoted combined research projects. The aim of this report is to evaluate the work of this combined venture.

Materials and Methods

The case notes of 200 consecutive patients attending the combined gynecology/urology clinic for the first time were reviewed and information was abstracted relating to diagnostic evaluation and treatment. A pelvic examination was performed by a gynecologist in all patients. Fluorourodynamic evaluation was performed by a urologist in those presenting with urinary incontinence. Flexible cystoscopy was performed, when necessary, by a urologist. In many cases both a gynecologist and urologist were present at all stages of the diagnostic assessment. All cases were then presented and discussed in an open forum session and a management plan was accordingly devised. Patients who underwent combined gynecologic–urologic surgery were reviewed postoperatively in the combined clinic; patients who underwent surgery otherwise were seen postoperatively in the appropriate gynecology or urology clinic.

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Results

The age, parity and referral pattern of patients attending the combined clinic are presented in Table 1. Almost equal numbers of patients were referred by gynecologists and urologists; approximately 1 in 5 were referred from outside the State of Michigan. Approximately one-third of patients had undergone hysterectomy in the past and one-third had had previous surgery for genuine stress urinary incontinence (GSUI). Three of the 4 patients who presented with vesicovaginal fistulae (VVF) and 2 of the 4 patients with urethral diverticula had undergone previous repair(s) (Table 2).

At least one diagnosis was confirmed in 183 patients (91.5%) and more than one diagnosis in 41 (20.5%) (Table 3). No diagnosis was made in 17 patients (8.5%), 12 of whom presented with genitourinary pain. The most common diagnosis included GSUI (81), post-hysterectomy vaginal eversion (23), detrusor instability (22), uterovaginal prolapse (17) and interstitial cystitis (16). Twenty-four of the 51 patients (47.1%) with genital prolapse (GP) had GSUI. Patients with GP in whom GSUI was not initially demonstrated were subsequently re-examined after reduction of their prolapse so as to unmask underlying GSUI. The diagnoses in those presenting with genitourinary pain included interstitial cystitis (16), vulvar vestibulitis (5), endometriosis (5), urethral diverticulum (4), leiomyomata (3) and chronic

Table 1. Age, parity and referral pattern of patients attending the combined clinic

| | |
|---|------------|
| <i>Age</i> | |
| Mean: 48.6 years (range 17–91) | |
| 67 (33.5%) >60 years | |
| <i>Parity</i> | |
| Mean: 2.4 (range 0–7) | |
| 25 (12.5%) were nulliparous; 26 (13%) >para 4 | |
| <i>Referral</i> | |
| Urologists | 99 (49.5%) |
| Gynecologists | 86 (43%) |
| Others | 15 (7.5%) |
| Direct from outside the hospital | 43 (21.5%) |
| Outside State of Michigan | 40 (20%) |

Table 2. Previous gynecologic and urologic surgery in patients attending the combined clinic

| | |
|--|----------|
| <i>Hysterectomy</i> | |
| Abdominal | 29 |
| Vaginal | 39 |
| | 68 (34%) |
| <i>Anti-GSUI surgery</i> | |
| Needle suspension | 34 |
| Retropubic | 30 |
| (> 1 operation 11; 5.5%) | |
| <i>Colporrhaphy without hysterectomy</i> | 22 (11%) |
| (> 1 operation 13; 6.5%) | |
| <i>Vesicovaginal fistula repair(s)</i> | 3 |
| <i>Urethral diverticulum repair(s)</i> | 2 |

Table 3. Most common diagnoses in patients attending the combined gynecology/urology clinic

| Diagnosis | Number | (%) |
|--------------------------------------|--------|---------|
| GSUI | 81 | (40.5%) |
| Vaginal eversion (post-hysterectomy) | 25 | (12.5%) |
| Detrusor instability | 22 | (11%) |
| Uterovaginal prolapse | 17 | (8%) |
| Interstitial cystitis | 16 | (8%) |
| Vaginal prolapse (non-everted) | 11 | (5.5%) |
| Underactive detrusor function | 10 | (5%) |

Table 4. Most common operations performed on patients attending the combined gynecology/urology clinic

| Operation | Number |
|--|--------|
| Pubovaginal sling | 46 |
| Raz bladder-neck needle suspension | 21 |
| Sacrospinous ligament suspension | 19 |
| Vaginal hysterectomy | 18 |
| Cystoscopy – hydrodistension | 17 |
| Colporrhaphy without hysterectomy | 11 |
| Laparoscopy | 10 |
| Abdominal hysterectomy | 7 |
| Paravaginal repair (obturator shelf urethropexy) | 6 |
| Colpocleisis | 6 |
| Ingelman – Sundberg denervation | 5 |
| Repair of vesicovaginal fistula | 4 |
| Urethral diverticulectomy | 4 |

bacterial cystitis (2); 3 of the patients with vulvar vestibulitis also had interstitial cystitis; ovarian remnant syndrome accounted for 2 of the 5 cases with endometriosis. A diagnosis was made in 35 of the 47 (74.5%) women presenting with genitourinary pain; those in whom a diagnosis was not made were referred to the chronic pelvic pain clinic in the hospital.

At total of 137 patients underwent surgery (68.5%), 14 (7%) having a second operation (Table 4). Surgery was deferred in 8 patients on account of medical contraindications. Forty-three operations (31.4%) were performed by gynecologists and urologists working together, 24 of these being for combined GSUI and GP (Table 5). In general, anti-incontinence procedures were performed by urologists and surgery for GP was performed by gynecologists. The most common operation performed was a pubovaginal rectus fascial sling (46), 13 of these being combined with a gynecologic procedure. The main indications for pubovaginal sling were type III SUI and failed previous surgery.

A sacrospinous ligament suspension (SSLS) was performed in 19 of the 25 (76%) patients with post-hysterectomy vaginal eversion; older patients who were not sexually active and who did not intend to become so were treated with colpocleisis.

A second operation was performed in 14 patients, the

Table 5. Most common combination of gynecologic/urologic operations performed in patients attending the combined gynecology/urology clinic

| Operations | Number |
|--|--------|
| <i>Pubovaginal sling +</i> | |
| vaginal hysterectomy | 6 |
| sacrospinal ligament suspension | 4 |
| colpocleisis | 3 |
| bilateral oophorectomy | 2 |
| <i>Raz needle suspension +</i> | |
| vaginal hysterectomy | 9 |
| sacrospinal ligament suspension | 3 |
| <i>Cystoscopy – hydrodistension +</i> | |
| laparoscopy | 6 |
| <i>Excision of endometriotic ovarian remnant</i> | 3 |

Table 6. Second operations performed in patients attending the combined gynecology/urology clinic

| First operation | Second operation |
|-------------------------------------|-----------------------|
| Raz needle suspension | Vaginal hysterectomy |
| Raz needle suspension | Enterocoele repair |
| Raz needle suspension | Pubovaginal sling |
| Raz/rectus muscle graft | Burch colposuspension |
| Pubovaginal sling | Repair of rectocele |
| Pubovaginal sling | SSLS* |
| Pubovaginal sling/SSLS* | Colpocleisis |
| Pubovaginal sling | Urethrolisis |
| SSLS* | Paravaginal repair |
| VVF repair | Repeat |
| Urethral diverticulectomy | Repeat |
| <i>Planned two-stage operations</i> | |
| VVF repair | Pubovaginal sling |
| Pubovaginal sling | SSLS* |

* Sacrospinous ligament suspension.

main indication being GP after anti-GSUI surgery (5); 2 patients underwent preplanned two-stage surgery (Table 6).

Of the 24 patients who underwent simultaneous surgery by gynecologists and urologists for combined GSUI and GP (one of whom had repeat surgery under our care), 17 (68%) had previously undergone previous gynecologic and/or urologic surgery. At a mean follow-up interval of 22.9 months (range 11–33.7 months), 22 patients (88%) were dry and had no significant GP; 2 patients had mild stress incontinence and one had recurrent prolapse. Evaluation of these patients consisted of a careful urogynecologic history, pelvic examination and provocative erect examination with a full bladder; only the 2 patients with residual GSUI underwent repeat fluorourodynamic evaluation.

Twenty-five hysterectomies (vaginal 18, abdominal 7) were performed in this series of patients: the indications were prolapse (17), leiomyomata (3), endometriosis

(2), adenomyosis (2) and dysfunctional uterine bleeding (1).

Discussion

Almost equal numbers of patients were referred to this clinic by both gynecologists and urologists, but they represent only a very small proportion of all patients seen independently by gynecologists and urologists during the period of study. Given the complex symptoms and case histories of many of these patients, combined assessment and, in certain circumstances, cooperative surgery appears to maximize the available resources; patients attending the gynecology/urology clinic were invariably well disposed towards these arrangements, the high diagnostic rate and limited number of clinic visits being particularly appreciated.

McGuire et al. [1] and Wall and DeLancey [2] have encouraged a multidisciplinary approach in the treatment of female pelvic floor pathology. Among the group of patients attending this clinic, the authors have had the opportunity to explore many complex gynecologic and urologic problems, particularly in relation to GP recurring after corrective surgery for GSUI; of the 5 patients who had surgery for GP after Raz or sling suspension, 4 had undergone surgery prior to referral for GP. Since its inception in 1989, a body of published work has emanated from the clinic [3–7]. Gynecologists and urologists in training have particularly benefited from the combined venture. We consider the cross-fertilization of ideas and skills generated by this combined venture to be professionally enriching; in addition, it appears to offer selected patients the best of both worlds. With the current awareness of associated pelvic floor problems relating to anorectal incontinence, the inclusion of colorectal surgeons in multidisciplinary ventures such as this appears to be well worth considering.

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EDITORIAL COMMENT: This report describes the successful collaboration between gynecologists and urologists in an outpatient diagnostic setting. The clinic was utilized as a referral center almost equally by gynecologists and urologists, suggesting that it serves as a 'neutral ground' covering the overlapping need of the two specialties. The approach utilized was quite efficient in establishing diagnoses in patients with a wide range of problems, many of which were complex, including many surgical failures. This effective and efficient clinic

also generated collaboration in the therapeutic arena, with over a quarter of the patients needing surgery being treated by gynecologists and urologists working together. Much more of this type of cooperative effort is needed in the management of pelvic floor dysfunction to optimize patient care. Not only urologists and gynecologists but also colorectal surgeons must blend their knowledge and skills to address clinical problems in this difficult area.

Reviews of Current Literature

Indications for Hysterectomy

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The reasons for hysterectomy are presented in the major categories as follows: uterine leiomyomas (30%), dysfunctional uterine bleeding (20%), genital prolapse (15%), endometriosis and adenomyosis (20%), chronic pelvic pain (10%), pelvic inflammatory disease, endometrial hyperplasia (6%), preinvasive and invasive cancers, obstetrical indications, and prevention of cancer. A number of complications still occur, with the most common being hemorrhage and infection. The long-term effects of hysterectomy are difficult to interpret, but include changes in urinary function, retained ovary syndrome, fatigue, constipation, sexual dysfunction, depression and other psychiatric morbidity. The urinary symptoms morbidity was found in 20%-30% of patients in three studies, but no change in two other studies. However, sexual dysfunction generally improves or does not change after hysterectomy, and there is no evidence of a greater than normal incidence of depression or other psychological stress. Cancer prevention alone does not justify the risk of hysterectomy. The evaluation required prior to hysterectomy for each group of patients is recommended. Rates of hysterectomy remain disparate, depending on country and regions within the USA in particular.

Comment

The reasons for including this article is that urinary tract surgery is frequently accompanied by hysterectomy. There should be a good reason to perform hysterectomy in these operative cases, since it has never been shown that hysterectomy improves the cure rate for operative procedures and, if anything, urinary symptoms may be increased after surgery. Readers are advised to obtain copies of this

article and, if necessary, present it to demanding patients prior to surgery. Health care reform will not allow poor judgement in removing uteri, and this will be important not just in the USA but in all countries.

Kegel Dyspareunia: Levator Ani Myalgia Caused by Overexertion

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The initiation of Kegel exercises led to dyspareunia in several patients whose pain was localized to the levator ani muscles. In each case, exercises were initiated vigorously with initially no problem, and were then followed by increasing discomfort and complaints of dyspareunia. Examination revealed some discomfort during bimanual palpation, but when the levator ani muscle was palpated directly, the patients immediately identified this as the source of the discomfort. The muscles run in an anteroposterior direction and are located along the lateral vaginal walls just above the hymenal ring. They are most readily palpated when the patient contacts her pelvic floor muscles, and the increased tension of the muscles is readily palpated.

Comment

The authors go on to explain about 'equestrian dyspareunia', where chronic misuse of the levator ani muscles led to dyspareunia. Two of the patients in the study did not appear to have specific muscle training and were perhaps misinformed on the technique of the exercises. It is important to stress to patients having pelvic floor muscle training that exercises are performed less intensely at the commencement of the process, and gradually increased in number to a maximum (usually 40-45 contractions of 12 seconds with 15 seconds' rest in between).