cystitis postoperatively. The frequency of cystitis in these patients preoperatively is not known. Eight patients reported that the micturition was slower after the operation. Three of these had residual volume (median 30 ml. range 27-72) and reduced flow (median 10 ml/sec. range 8-13). Among the 13 patients who had residual urine, exceeding 25 ml. at the control, 5 patients had experienced cystitis postoperatively, 4 patients found the micturtion slower and 2 patients experienced postoperatively urge incontinence that they did not have before. Among the 8 patients who had an additional operation, one was leaking during the postoperative stress test.

CONCLUSIONS

We find a cure rate of 92% promising. Patients with LCP had a significantly lower cure rate than patients with closure pressure higher than 20 cm. water. In these patients it was often difficult to adjust the optimal tape position. Forty-three percent of the patients with mixed incontinence were cured for both urge and stress incontinence after the operation. The TVT procedure was successfully combined with other gynecological interventions. The operation may cause obstruction. Perhaps was this the case in 18 % of our genuine stress incontinent patients with experienced urge incontinence after the operation. Fifteen percent of the patients experienced cystitis after the operation, 18 % had residual urine and 8 % found that they were micturating slower after the operation. The TVT operation is attractive; it requires short operating time, can be performed as an outpatient clinic procedure and the results are promising. However, the operation may cause obstruction and the possible harmful consequences of this are not known.

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A MULTI-CENTRE, PROSPECTIVE, RANDOMISED, CONTROLLED, GROUP COMPARATIVE STUDY OF THE EFFICACY OF VAGINAL CONES AND PFX

Aims of study

Several studies have successfully reported separately on the value of weighted vaginal cones, pelvic floor exercises (PFE) and biofeedback in the treatment of urinary incontinence.

This study aims to compare the response of women with stress urinary incontinence to 12 weeks treatment with these techniques.

Methods and Materials

Some 101 women (age 20 to 64) with stress urinary incontinence were enrolled in the study. They were randomly assigned to one of three groups: Group A (N=41) received Aquaflex Cones (Seton, UK), Group B (N=40) received a PFX (pressure biofeedback device: Cardio Design, Australia) and Group C (N=20) received PFE. All women were seen 5 times during the 3 month study period. Group A patients were instructed to use an appropriate Aquaflex cone for 10 minutes each day. (Aquaflex cones are available in 2 sizes of empty shell and weights are introduced into the shell, according to the woman's ability to retain the cone). Patients in Group B were instructed to use the PFX for 10 minutes each day, in lying and standing, using a patient specific exercise regimen. Group C were instructed to perform patient specific exercises for 10 minutes each day. All groups completed an exercise diary and discontinued treatment during menstruation.

The primary end points were a measure of the reduction in the frequency of incontinence (from a bladder diary) and subjective assessment using a visual analogue scale (VAS). Secondary end points included muscle testing, QOL (Kings College) and pad usage. Adverse events and completion rates were recorded and will be reported in detail in a future paper.

Ethical committee approval was obtained and all patients signed a consent form.

Results

There were no significant differences between groups in any pre-trial variables.

68 women completed the trial and the results are shown in the table.

There was a significant difference in completion rates between the centres but no significant difference between groups.

Table of results

	Group A (N=30)	Group B (N=22)	Group C (N=16)	Significance
Reduction in wet episodes per day Mean (S.D.)	1.00 (1.04)	1.20 (1.29)	1.13 (1.42)	NS
Reduction in pad score Mean (95% Confidence Bounds +/-)	2.9 (1.51)	2.27 (1.49)	1.88 (1.15)	NS
Increase in max. muscle contraction Mean (95% Confidence Bounds +/-)	9.30 (4.58)	11.00 (6.28)	7.13 (4.99)	NS
Reduction in VAS Mean (95% Confidence Bounds +/-)	1.69 (0.71)	2.35 (1.33)	1.84 (0.68)	NS
Improvement in QOL Mean (95% Confidence Bounds +/-)	7.03 (2.77)	6.14 (2.59)	8.13 (4.44)	NS
Compliance score	77.0%	78.8%	81.3%	NS

Conclusions
There were no significant differences between the 3 groups in outcome measures; however, some clinical differences were noted.

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DYNAMIC MRI: A NEW GRADING SYSTEM FOR PELVIC PROLAPSE AND PELVIC FLOOR RELAXATION

Aims of Study: In the setting of significant vaginal prolapse, it is often difficult to differentiate among cystocele, enterocele and a high rectocele by physical examination alone. With uterine prolapse, the cervix and uterus often fill the entire introitus, making the diagnosis of concomitant pelvic visceral prolapse difficult. Accurate pre-operative staging of pelvic prolapse and pelvic floor relaxation is necessary for proper surgical planning, and to prevent recurrent prolapse. Dynamic magnetic resonance imaging (MRI) provides excellent visualization of the pelvic organs and musculofascial supportive structures. This test is fast, non-invasive, requires no patient preparation and minimal cooperation, and is relatively inexpensive. We propose a simple and objective grading system for describing, quantifying and staging pelvic organ prolapse and pelvic floor relaxation.

Methods: : From September 1997 to October 1998, 164 consecutive female patients ages 23 to 88 presenting with pelvic or urethral pain (N=39) or pelvic organ prolapse (N=125) underwent half-Fourier-acquisition single-shot turbo spin echo (HASTE) sequence MRI (Siemens) or single shot fast spin echo (SSFSE) T2-weighted sequence (General Electric). These MRI sequences are equivalent, with similar image acquisition settings. Midsagittal and parasagittal cuts were obtained in the supine position, both relaxed and with straining. No pre-examination preparation or instrumentation was utilized. The images were looped as a cine stack for viewing and measuring the relationship among the mobile pelvic organs and fixed anatomical landmarks.

The size of the levator hiatus and degree of muscular pelvic floor relaxation and organ prolapse were measured. The "H-line" (width of the levator hiatus) measures the distance from the pubis to the posterior anal canal. The "M-line" (muscular pelvic floor relaxation) measures descent of the levator plate from the pubo-coccygeal line. The pubo-coccygeal line spans from the pubis to the coccyx. "O" classification (organ prolapse) describes the degree of visceral prolapse beyond the H-line. The degree of cystocele, urethrocele, rectocele, enterocele, and uterine descent were graded as 0 = none, 1 = minimal, 2 = moderate, and 3 = severe. All MRI images and cine loops were obtained and interpreted by a single radiologist (ZB) familiar with these techniques. Results: The total image acquisition time was 2.5 minutes per study. Room time was 10 minutes per patient. The charge for each study was