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Title: TRANSVAGINAL RADIOFREQUENCY BLADDER NECK SUSPENSIONFOR STRESS INCONTINENCE; SAFETY AND ITS EFFECT ON SUBSEQUENT SURGERY

Objective/Introduction:

It is acknowledged that female urinary stress incontinence is due to a loss of structural support of the bladder neck. The object of this treatment is to shrink the stretched endopelvic fascia to re-elevate and support the bladder neck. This is based on the well-documented evidence that collagen type tissue, such as ligaments and fascia, will shrink when heated between 60-100°C due to collagen denaturation (1,2).

Aim of the study:

To evaluate the safety and effectiveness of radiofrequency heat application to the endopelvic fascia to support the bladder neck. We have also evaluated the effect of this treatment on subsequent surgery on a small number of patients.

Methods:

In a prospective study, 24 female patients, with genuine stress incontinence (SUI) were included according to the inclusion and exclusion criteria.Pre-operative cystometry, one hour PAD test (ICS standard test) and Q-tip test were carried out . Patients with associated detursor instability and peak point pressure below 60 cm H_2O were excluded. Only patients who had no improvement in their symptoms on the conservative management were included.Visual scale, continence diary and quality of life questionnaires were used as subjective assessment for the symptoms .

Using the transvaginal bilateral paraurethral incisions, the vaginal skin was reflected and the endopelvic fascia was exposed. The endopelvic fascia was treated by controlled radio-frequency energy with an applicator (SURx Inc, Pleasanton, CA) causing heating and shrinking. The incisions were closed in a routine manner. Catheters were removed immediately and most patients were treated as day cases. All patients received prophylactic oral antibiotic.

Intra-operative findings were recorded in 6 patients who had Burch colposuspension as a secondary treatment.

Twenty-one patients attended for their three month follow up. All had a gynaecological examination, Q-tip test, subjective assessment by the same investigator and objective assessment (urodynamically and pad test).

Result:

The mean operative time of the procedure was 41.1 minutes. There were no intraoperative complications with no significant intraoperative blood loss.

Postoperative complications included 2 cases of urinary tract infection, one secondary haemorrhage which responded to conservative treatment, slight vaginal discharge was reported by 2 patients, and persistent

unexplained pain by one patient. No postoperative voiding problems were observed.
Oral simple analgesia was used to control the postoperative pain. After 24 hours 27.2% reported no pain at all, 40.9% had mild pain and 31.8% had moderate pain. One week postoperatively only 31.8% had mild pain, (Pain intensity analogue scale, and pain intensity category scale was used).

At 3 months follow up 42% were completely cured both subjectively and objectively as demonstrated by urodynamic and pad test. A further 30% have demonstrated significant subjective improvement between 70-100% on the visual analogue scale.
Overall, 72% of patients were very satisfied with the outcome of treatment at 3 months follow up.

During Burch colposuspension of those 6 patients who did not respond to SURx treatment, we have observed no evidence of any scar formation or significant adhesion at the retro-pubic space. Burch colposuspension procedures were straightforward to perform.

Conclusion:

Treating the endopelvic fascia by radiofrequency heating has an encouraging preliminary result. The operative technique is simple to use and associated with low morbidity. It seems that this procedure could be considered as first line treatment for genuine stress incontinence as it does not appear to preclude subsequent surgical treatment

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