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Transvaginal Sacrospinous Colpopexy for Vault Prolapse and for Marked Uterovaginal Prolapse

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OBJECTIVE S – To assess the efficacy of transvaginal sacrospinous colpopexy in the treatment of vault prolapse and marked uterovaginal prolapse. **METHODS** – A retrospective study of 30 patients who underwent sacrospinous colpopexy procedure from July 1999 to June 2000 was done. Of these, 10 had vault prolapse and 20 had marked uterovaginal prolapse. Bilateral sacrospinous colpopexy was done in 14 patients and 16 underwent the procedure unilaterally. Enterocele repair, posterior vaginal repair and anterior vaginal repair were done when indicated and 20 with uterovaginal prolapse underwent vaginal hysterectomy. All patients were reviewed postoperatively at the end of 1 month and 3 months, and half yearly thereafter. **RESULTS** – Duration of follow up ranged from $2\,^1/_2$ to $3\,^1/_2$ years. None of the patients developed recurrence of prolapse in the anterior compartment, the posterior compartment or in the vault. Complications were limited to transient lower limb weakness in two patients, both of whom recovered uneventfully. **CONCLUSION** – Sacrospinous colpopexy is a simple and effective procedure in the treatment of vault prolapse and marked uterovaginal prolapse. It is a procedure that should be learnt and applied more frequently considering its many advantages.

Key words : colpopexy, sacrospinous colpopexy, vault prolapse, uterovaginal prolapse

Introduction

With the dawn of the new century, the problem of pelvic organ prolapse has been receiving tremendous attention. An increase in longevity and a yearning for an active lifestyle with maintenance of coital function has made women keen for permanent solutions for pelvic organ prolapse. The aim of any prolapse surgery is to correct the anatomical problem, relieve symptoms and restore function. The surgical procedures aimed at effective vault support have been many. The transvaginal sacrospinous colpopexy (SSCP) is one such procedure which has become increasingly popular. The first attempts by Zweife[1] in 1892 were followed by Richter[2] in 1968 and later were popularized by Randall and Nichols[3] in 1971 in the USA.

The procedure involves fixing the vaginal vault to the sacrospinous ligment with permanent or delayed absorbable suture material. Indications for sacrospinous colpopexy include symptomatic prolapse of vaginal vault, nulliparous prolapse needing preservation of fertility and prophylaxis against vault eversion at the time of vaginal hysterectomy.

Material and Methods

Thirty multiparous women having genital prolapse underwent SSCP from July 1999 to June 2000. They were evaluated with a standardized protocol based on a) history b) gynecological and urological examinations c) cystoscopy d) stress test with the patient in standing position after reduction of the prolapse with pessary, and e) urodynamic studies (cystometry and pressure flow) as and when needed. Table I gives details of presenting complaints and associated pelvic floor defects seen in patients. A good knowledge of the working anatomy of the sacrospinous ligament and its surrounding structures is required for minimizing complications during surgery and achieving maximum results. The sacrospinous ligament is attached medially by a broad base to the side of the lower part of sacrum and upper part of coccyx. It narrows as it passes laterally, where its apex is attached to the ischial spine. Randall and Nichols[3] described the sacrospinous ligament as a cord like structure lying in the substance of the coccygeus muscle. In fact they are so similar as to be referred to as the coccygeus sacrospinous ligament (C-SSL). Verdeja et al[4], on dissecting 24 human cadavers noted that the pudendal complex and sciatic nerve were found 0.90 to 3.30 cms medial to the spine, making them prone to injury.

Surgical procedure

The SSCP begins with a longitudinal incision in the posterior vaginal wall from introitus to the vault. The rectovaginal space is defined. Any existing enterocele is dissected, opened and high ligation of the sac performed. By breaking the rectal pillar, the ischial spine is felt. A long needle holder with an atraumatic prolene suture

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No. '1' is used to take a bite on the sacrospinous ligament at a point 3 cms medial to the spine. A second bite is taken using the same suture 1 cm medial to the first. Both sutures are loaded on to needles and brought out through the vaginal wall at the level of the vault. The anterior and posterior defects if present are then corrected. The sacrospinous sutures are finally tied taking the vault to the ligament.

Results

All patients were operated under regional anesthesia. The details of concomitant surgical procedures done are given in Table II. Operating time ranged between 60 and 90 minutes, when vaginal hysterectomy was included, and 30 and between 60 minutes when only repair of vault prolapse with scarospinous colpopexy was done. Cystoscopic removal of vesical stone was done in one patient. One patient underwent repair of prolapsed urethral mucosa. Both these procedures were done prior to the primary procedure. Two patients with stress urinary incontinence underwent surgery with tension free vaginal tape as described by Ulmsten et al[5] after the primary procedure. There was no need for any blood transfusion. Urinary catheter was left in for 3 days postoperatively in all cases. Postoperative complication was limited to transient bilateral lower limb weakness in two patients which recovered in 4 or 5 days time. All patients were discharged in 3 to 5 days. The patients who underwent TVT were completely cured of SUI. Follow-up ranged from $2\,^1/_2$ years to $3\,^1/_2$ years. The patients were examined after discharge at 1 month and 3 months, and thereafter at 6 monthly intervals and were found to be symptom free without any recurrence during the follow up period ranging from $2\,^1/_2$ to $3\,^1/_2$ years.

Table I : Associated conditions and pelvic floor defects.

	Cystocele	Rectocele	Enterocele	Stress urinary incontinence	Bladder Stone	Urethral mucosal prolapse
Uterovaginal prolapse (n=20)	20	15	10	2	1	1
Vault prolapse (n=10)	10	8	10	-	-	-

Table II : Concomitant procedures done along with sacrospinous colpopexy

		Sacrospinous colpopexy		Concomitant procedures						
		Bilateral	Unilateal	VH	AC	PC	ER	TVT	Bladder stone removal	Urethral mucosal repair
UVP	20	8	12	20	20	15	10	2	1	1
VP	10	10	0	-	10	8	10	-	-	-

VP – Vault Prolapse
UVP – Uterovaginal prolapse
VH – Vaginal hysterectomy
AC – Anterior vaginal repair
PC – Posterior vaginal repair
ER – Enterocele repair.
TVT - Tension free vaginal tape

Discussion

Pelvic organ prolapse can be the result of chronic increase in abdominal pressure exerted on normal pelvic organs or defective support responding inadequately to normal intraabdominal pressure. Incidence of massive vaginal vault prolapse following hysterectomy is 2 to 3.6 / 1000 women years[6]. It is however interesting to note that vault prolapse rates reported after hysterectomy for uterine prolapse, were higher viz. 15/1000 women years[6]. Marked vault or uterovaginal prolapse requires procedures that provide adequate vaginal depth and prevent recurrence[7,8]. The apex of the vagina lies almost horizontal over the levator plate. The sacrospinous colpopexy[9] procedure re-establishes the upper vagina over the levator plate. The patients in our study underwent not only SSCP but also concomitant repair of rectocele, cystocele and enterocele when required.

Associated stress urinary incontinence was also corrected. The reported incidence of postoperative stress urinary incontinence after correction of uterovaginal prolpase is 15-80%[10]. In all our patients the prolapse was reduced with pessary before checking for stress urinary incontinence by cough test. Those who tested positive underwent urodynamic studies. The TVT procedure was done in patients having genuine stress incontinence as it was a highly effective minimally invasive procedure with least morbidity. The technique itself varies from center to center with surgeons using Deschamps[11] ligature carrier or Miya Hook[12] and / or the endostitch. We combined anterior colporrhaphy in all our patients and did not come across recurrent cystoceles in the follow up. As the sacrospinous colpopexy retroverts the vault, patients are highly prone to anterior compartment defects[13].

Even though there is controversy as to whether there is any advantage of the bilateral procedure over the unilateral one, we preferred the bilateral one in patients with vault prolapase. Also a redundantly wide vault was better dealt with by bilateral sacrospinous colpopexy. None of the patients complained of dyspareunia.

In obese women with deep pelvis and less prominent ischial spines, identifications of sacrospinous ligament may be difficult. If the stitch does not include the sacrospinous ligament, it may cut through while it is anchored to the vagina.

During surgery, rectum, pudendal nerve and pudental vessels can get injured and due care should be taken to avoid such injuries. This surgery is contraindicated if the patient had rectal surgery or drainage of pelvic abscess in the past.

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