Original Article

SACROSPINOUS LIGAMENT FIXATION, A SAFE AND EFFECTIVE WAY TO MANAGE VAGINAL VAULT PROLAPSE.A 10-YEAR OBSERVATIONAL STUDY OF CLINICAL PRACTICE

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ABSTRACT:

OBJECTIVE: The purpose of this study was to determine the functional outcomes, and to link the success of sacrospinous fixation with the age of patients, time interval between surgery and recurrence of prolapse. Also, to see if concomitant surgeries affect the outcome.

STUDY DESIGN: An original observational study.

METHODS AND MATERIALS: Between 2006 and 2015, 109 women underwent sacrospinous fixation for the management of symptomatic vaginal vault prolapse in North Cumbria University Hospital. Follow-up data was available for 107 patients. Inclusion criteria were women with symptomatic vaginal or vault prolapse with Baden-Walker system ≥ grade 2 which needs surgical treatment, surgically fit for surgery and have the capacity to consent to surgery. Exclusion criteria were the previous surgical treatment of vault prolapse, contraindication for a surgical intervention and have no capacity to consent to surgery.

RESULTS: Out of 107 patients, 45 underwent SSLF with anterior and posterior colporrhaphy, 18 had vaginal hysterectomy, anterior and posterior colporrhaphy and sacrospinous fixation. SSLF was combined with anterior colporrhaphy in 4 and with posterior colporrhaphy in 38 women. Recurrence of prolapse was seen in only 14 patients. Advanced age showed the slightly increased risk of recurrence as of those who had the recurrence, 8 were over the age of 70. The successful surgical outcome was seen in 82%, 89%, 75% and 100% of patients when SSF was performed in combination with anterior and posterior repair, with posterior repair, with anterior repair, and with vaginal hysterectomy respectively. Among recurrence group, 57% noticed it within a year of surgery. 57% of women with the recurrence of vault prolapse successfully underwent repeated surgeries in the form of repeat sacrospinous ligament fixation, 3 women were operated with anterior and posterior colporrhaphy with synthetic mesh and 4 had anterior and posterior vaginal wall repair.

CONCLUSION: Sacrospinous ligament fixation is an effective procedure with a low recurrence rate. Recurrence is slightly higher with advanced age. Concomitant surgeries do not increase the risk of recurrence. In cases of recurrence, the majority of cases showed it within 12 months of surgery.

KEYWORDS: Sacrospinous ligament fixation, prolapse, concomitant surgeries, age

INTRODUCTION:

Apical prolapse is the descent of uterus, cervix, or vaginal vault. Various reconstructive procedures for prolapse of the vaginal apex are being done for its management. Operations for

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apical prolapse include transvaginal, open, and laparoscopic or robotic options. Vaginal procedures used for restoring the vaginal apex support include sacrospinous ligament fixation (SSF), iliococcygeal fascial fixation (ICFF), uterosacral ligament suspension (USLS), and use of synthetic meshes. Abdominal Sacrocolopexy (ASC) is an intra-abdominal procedure for vaginal apical support. In spite of various available operations, an ideal procedure for the reconstruction of vaginal apical support has yet to be found. Sacrospinous colpopexy, presented by Randall and Nichols[1] in 1971, has turned into a favoured strategy for re-establishing vaginal support in women with vault prolapse, major prolapse of the vagina and procidentia. The age-particular incidence increased with progressing age and along these lines, better surgical techniques are required. Long term follow-up results of SSF have been published and have indicated cure rates of more than 80%.

In the present study, transvaginal sacrospinous ligament fixation strategy was utilized as a component of the vaginal repair technique for marked uterovaginal prolapse and vault prolapse. The reason for this study was to assess straightforward sacrospinous fixation if performed for major vaginal and vault prolapse, helps in reducing the risk of future vault recurrence and to assess the connection between successful surgery and age of the patient, related operations and time interim between surgery and recurrence of prolapse.

METHODS:

One hundred and nine patients with severe prolapse of pelvic organ undergoing SSF were retrospectively studied. In this study, all patients were staged by the value of Baden-Walker system. In the years of 2006 and 2015, 109 women underwent sacrospinous fixation for the management of symptomatic vaginal vault prolapse. Follow-up information was accessible for 107 patients. Office records were looked into to evaluate the presence of recurrence of prolapse, the age of patients, time interim between surgery and recurrence of prolapse. Data was also collected for related surgeries performed with sacrospinous fixation. Mean duration of follow-up was 12.0±6 months.

RESULTS:

Eighty-eight (82%) patients had an earlier hysterectomy. Mean age at the time of surgery was 68 year(Table 1). Sacrospinous ligament fixation was combined with the accompanying methods; 45 patients had anterior and posterior colporrhaphy (42%), 18 had the sacrospinous fixation in combination with vaginal hysterectomy, anterior colporrhaphy and posterior colporrhaphy (17%). Four anterior colporrhaphies (4%), 38 posterior colporrhaphies (35%) and one sacrospinous fixation was done as solitary procedure (1%). In one Patient (1%) just cervix was removed because of difficulty in completing hysterectomy due to adhesions.(Fig. 1)

Ninty three (87%) indicated successful outcomes while 14 patients (13%) demonstrated recurrent vaginal vault prolapse. Recurrent cystocele was found in 03 cases (3%), 03 developed urinary urgency and urge incontinence (3%) and one (1%) had constant vaginal pain which settled in 6 months after the operation. The average age of failure was 70 year. The results have shown slightly increased risk of failure with advanced age. (Fig. 2)

Link with concomitant surgeries. SSF when performed with concomitant surgeries, showed 82%, 89%, and 75% success when done with anterior and posterior repair, with posterior colporrhaphy and with anterior colporrhaphy respectively. 100% success was seen when SSLF was done with vaginal hysterectomy, anterior and posterior vaginal wall repair (18 patients). Of 14 women who had the recurrence of vault prolapse, 8(57%) had sacrospinous fixation combined with anterior and posterior colporrhaphy. Four (29%) had SSLF with posterior vaginal wall repair, one (7%) had SSLF with anterior colporrhaphy and in 1 women (7%) SSLF was done as sole procedure.

Time interval between surgery and failure

We divided the group of women whose surgery failed into 3 timescales. Three women's operation failed within 6 weeks of surgery. Eight women noticed prolapse again within a year. Two women had recurrence between 2 – 3 years of surgery, just a single patient noticed recurrence in 6 years' time (Table 2)

Eight(57%) patients with complete recurrence

of vaginal vault prolapse successfully underwent repeated surgeries, Of those 8 women, one had repeat sacrospinous ligament fixation, 3 women were operated with anterior and posterior colporrhaphy with synthetic mesh and 4 had anterior and posterior vaginal wall repair. Two were asymptomatic therefore opted for conservative management, 3 were not suitable for repeat surgery in view of co-morbidities and one used shelf pessary for symptomatic relief of prolapse.

Table 1

Women's age in years	Number of women	Percentages (%)
<50	01	1%
51 – 60	25	23%
61 – 70	36	34%
71 – 80	35	33%
>81	10	9%

Fig. 1

Fig. 2

Table 4

Number of women (14)	Time interval between surgery and recurrence of prolapse	%ages
3	6 weeks	22%
8	12 months	57%
2	2-3 years	14%
1	6 years	7%

DISCUSSION:

Pelvic organ prolapse (POP) is a common condition in women and its percentage increase after menopause[2]. It occurs when the pelvic organs, for example, the bladder, uterus, and bowel, drop or slide from their distinctive position into or through the vagina. Although it is not an existence debilitating condition, women with POP frequently encounter pelvic uneasiness, urinary and bowel incontinence, sensory and emptying problems of the lower urinary tract, sexual dysfunction, and a general reduction in their quality of life[3]. Prolapse of the vaginal vault is a well-known complication after hysterectomy. It can happen after all types of hysterectomy—vaginal, abdominal, or laparoscopic—and may be associated with a cystocele, rectocele, and enterocele. Surgical treatment of vaginal vault is a feasible alternative if conservative management fails. Different surgical strategies have been proposed to correct vaginal vault with or without the utilization of graft material[4]. In literature, various operative methods are described for the rectification of vault prolapse[5].

Sacrospinous ligament fixation technique has been applied for apical support procedures for many decades. Fixation of the vaginal apex to the sacrospinous ligament has many advantages. It keeps the vaginal axis in the midline and empowers change of the vaginal length. As a vaginal system, it allows simultaneous management of anterior and posterior vaginal wall prolapse, which is presented in no fewer than two third of cases with total prolapse[4]. By utilizing a transvaginal approach, the potential complications of laparotomy are avoided and have the added benefit of reduced hospital stay and quick recovery, also sexual potency is maintained[6,7,8]. We assessed our experience of SSF with pelvic reconstruction over a 10 year time span. Our surgery success rate (87%) was practically identical with those reported already (67-97%) in a literature review which showed that cure rates of prolapse-related symptoms ranged from 70 to 98 percent (only four studies reported subjective results) and the range of objective cure rates was 67 to 97 percent[9]. Recurrence of apical prolapse after SSF has been reported in 2 to 19 percent of women and of anterior vaginal wall prolapse in 6 to 29 percent[1,10-19]. This study also showed apical prolapse in 13% of cases which is not more than already described in other studies.

Our study demonstrated most recurrences within 12 months and it is seen in 13% of all surgeries performed. A few reviews have demonstrated a repeat of prolapse in roughly 25% within 5 years, the requirement for repeat surgery is 17% [1]. Recurrence cases in this study were managed with successful repeat surgeries in 57% of cases while others had conservative management. Type of associated surgery with SSLF have no influence on the failure of the procedure as more than 75% success was seen when sacrospinous ligament fixation was done with anterior and posterior repair, with posterior colporrhaphy and with anterior colporrhaphy.

More randomized control trials are expected to assess the best treatment for vaginal apical prolapse. Sacrospinous ligament fixation gives great long-term objective and subjective results and enhances personal satisfaction in women treated with the surgery.

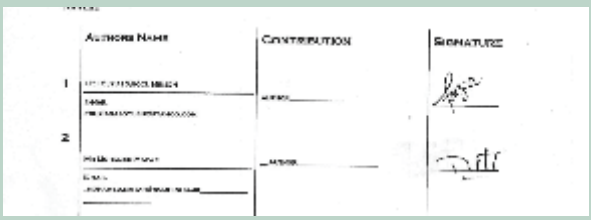
CONCLUSION:

Sacrospinous ligament fixation is an effective and safe procedure with a low recurrence rate. Recurrence risk is slightly higher with advanced age. A concomitant surgery does not increase the risk of recurrence or failure of the procedure. In cases of recurrences, the majority of cases showed it within 12 months of surgery. Repeat procedures performed were also through vaginal route with good success rate.

REFERENCES:

1. Randall CL, Nichols DH. Surgical treatment of vaginal inversion. Obstet Gynecol.1971;38:327–32
2. Brown DN. Pelvic organ prolapse: a consequence of nature or nurture? Menopause 2015;22:477–9
3. Lowder JL, Ghetti C, Nikolajski C, et al. Body image perceptions in women with pelvic organ prolapse: a qualitative study. Am J Obstet Gynecol 2011; 204:441.e1
4. Cvach K, Dwyer P. Surgical management of pelvic organ prolapse: abdominal and vaginal approaches. World J Urol 2012;30:471–7.
5. Ramalingam K, Monga A. Management of vault prolapsed. The Obstetrician & Gynaecologist 2013;15:167–70.
6. Maher C, Feiner B, Baessler K, Schmid C. Surgical management of pelvic organ prolapse in women. Cochrane Database Syst Rev 2013
7. Siddiqui NY, Grimes CL, Casiano ER, et al. Mesh sacrocolpopexy compared with native tissue vaginal repair: a systematic review and meta-analysis. Obstet Gynecol 2015; 125:44.
8. Anand M, Weaver AL, Fruth KM, et al. Perioperative Complications and Cost of Vaginal, Open Abdominal, and Robotic Surgery for Apical Vaginal Vault Prolapse. Female Pelvic Med ReconstrSurg 2017; 23:27)
9. Beer M, Kuhn A. Surgical techniques for vault prolapse: a review of the literature. Eur J Obstet Gynecol ReprodBiol 2005; 119:144.

10. Maher CF, Murray CJ, Carey MP, Dwyer PL, Ugoni AM. Iliococcygeus or sacrospinous fixation for vaginal vault prolapse. Am J Obstet Gynecol 2001; 98:40–44.
11. Lin TY, Su TH, Wang YL, Lee MY, Hsieh CH, Wang KG, Chen GD. Risk factors for failure of transvaginal sacrospinous uterine suspension in the treatment of uterovaginal prolapse. J Formos Med Assoc 2005. 104(4):249–253
12. Maher CF, Qatawneh AM, Dwyer PL, et al. Abdominal sacral colpopexy or vaginal sacrospinous colpopexy for vaginal vault prolapse: a prospective randomized study. Am J Obstet Gynecol 2004; 190:20
13. Lantzsch T, Goepel C, Wolters M, et al. Sacrospinous ligament fixation for vaginal vault prolapse. Arch Gynecol Obstet 2001; 265:21.
14. Nieminen K, Huhtala H, Heinonen P. Anatomic and functional assessment and risk factors of recurrent prolapse after vaginal sacrospinous fixation. Acta Obstet Gynecol Scand. 2003. 82:471–478
15. Bracken JN, Tran DH, Kuehl TJ, Larsen W, Yandell PM, Shull BL. A novel transvaginal approach to correct recurrent apical prolapse after failed sacral colpopexy: case series. IntUrogynecol J 2012;23:1429–33.
16. Toh VV, Bogne V, Bako A. Management of recurrent vault prolapse. IntUrogynecol J 2012;23:29–34.
17. Maher C, Baessler K, Glazener C, Adams E, Hagen S. Surgical management of pelvic organ prolapse in women: A short version Cochrane review. NeurolUrodyn 2008; 27:3–12.
18. Chmielewski L, Walters MD, Weber AM, et al. Reanalysis of a randomized trial of 3 techniques of anterior colporrhaphy using clinically relevant definitions of success. Am J Obstet Gynecol 2011;205:69. e1-8.
19. Jessica N. Bracken, Diana H. Tran, Thomas J. Kuehl. A novel transvaginal approach to correct recurrent apical prolapse after failed sacral colpopexy: case series IntUrogynecol J 2012; 23:1429–1433.



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After Revision

When Imam Ali was asked about Faith in Religion, he replied that the structure of faith is supported by four pillars endurance, conviction, justice and jihad.

Hazrat Ali (Karmulha Wajhay)