European Journal of Obstetrics & Gynecology and Reproductive Biology 207 (2016) 178–183

Contents lists available at ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

Full length article

Outcomes of laparoscopic sacropexy in women over 70: A comparative study

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ARTICLE INFO

Article history:
Received 4 September 2016
Received in revised form 24 October 2016
Accepted 10 November 2016
Available online xxx

Keywords:
Elderly
Functional results
Genital prolapse
Laparoscopy
Sacrocolpopexy

ABSTRACT

Objective: Precise data are lacking concerning laparoscopic sacropexy in the elderly population. The purpose of this study was to compare the outcomes and complications associated with laparoscopic sacropexy (colpopexy or hysteropexy) in women aged under 70 and 70 or over.
Study design: Retrospective review of data on patients who underwent laparoscopic sacropexy in two tertiary centers. Peri- and postoperative complications were recorded and described using the IUGA classification. Surgery was considered successful if the patient was symptomatically satisfied or very satisfied and if the POP-Q (Pelvic Organ Prolapse-Quantification) stage score at the follow-up visit was below stage 2 for all compartments.
Results: Among the 191 women studied, 47 (24.6%) were aged 70 or more. According to the ICS/IUGA classification of POP complications, perioperative and postoperative complication rates were similar in the older versus younger groups (bladder injuries (0 *vs.* 1.39%, p = 1) (4A T1 S2), rectal injuries (0% *vs.* 0.69%, p = 1) (5BT1S5), vaginal injuries (2.13% *vs.* 0%, p = 0.246) (2A T1 S1)). No laparotomy conversion was required in either group. At two months of follow-up, the success rate was 97.9% and 95.1% in the older and younger groups, respectively (p = 0.68). At 24 months of follow-up, the overall reoperation rate was 12.8% for the older group versus 11.8% in the younger group (p = 0.80).
Conclusions: Our findings suggest that laparoscopic sacropexy is a valid option in elderly women presenting with genital prolapse.

Introduction

The prevalence of pelvic organ prolapse (POP) increases in the elderly [1,2]. After failure of conservative treatment (including pelvic floor muscle training and pessary use), surgical treatment of POP can be proposed [3]. Among surgical procedures, the abdominal (sacropexy) or the vaginal route can be discussed, with or without the placement of a synthetic mesh. To date, few studies have focused on elderly patients. Richter et al. [4] in a study analyzing abdominal sacrocolpopexy (by laparotomy) found no significant difference in complication rates between women aged over 70 and younger women. During the last decade the laparoscopic approach of sacropexy (sacrocolpopexy or sacrohysteropexy) has been widely developed with good results [5]. Even though surgeons are still reluctant to propose laparoscopic surgery in elderly women, many scientific societies have concluded that laparoscopic sacropexy can be proposed to women under 65 year of age [6]. The National Institute for Health and Care Excellence (NICE) guidelines and the British College recommendations indicate no preference between abdominal and laparoscopic sacrocolpopexy, even though abdominal sacrocolpopexy seems to reduce the risk of recurrent prolapse, postoperative dyspareunia and stress urinary incontinence compared with laparoscopic sacrospinous colpopexy [7]. Finally, most surgeons prefer the vaginal approach to correct genital prolapse in the elderly. One previous retrospective study analyzed perioperative complication rates in women older than 65 who underwent laparoscopic and robot-assisted laparoscopic sacrocolpopexy, but did not report anatomical or functional outcomes. The study showed that age

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http://dx.doi.org/10.1016/j.ejogrb.2016.11.008
0301-2115/

over 65 was associated with more major complications (OR 2.99 [95% CI 1.24–7.2]) [8]. The aim of our study was to compare the functional and anatomical short-term outcomes and operative complications associated with laparoscopic sacropexy in women under and over 70.

Material and methods

The current study retrospectively included patients who underwent laparoscopic sacropexy in two tertiary care centers. The study group consisted of women aged 70 or over. The control group consisted of women under 70. Data were extracted from the medical charts of the patients: age at the time of surgery, body mass index (BMI) at the time of the preoperative appointment with the anesthetist, menopausal status, initial stage of genital prolapse, operative and postoperative data, complications, anatomical and functional results. The stage of genital prolapse was classified according to the simplified International Continence Society (ICS) Pelvic Organ Prolapse Quantification (POP-Q), which graded the severity of prolapse at points Ba, Bp, C and D, following the recommendations of the ICS [9]. The most severe stage of the three compartments defined the general stage of genital prolapse. A search for patent or masked stress urinary incontinence (SUI) was performed before and after prolapse reduction using a speculum and cough test during urodynamic evaluation. Laparoscopic sacrocolpopexy was performed by a trained surgeon in all patients. A polyester or polypropylene mesh was sutured to the anterior wall of the vagina using a non-absorbable suture. A posterior mesh was placed only if there was a posterior compartment vault (elythrocele, rectocele or enterocele). A sub-total hysterectomy was associated if a uterine abnormality was diagnosed (menorrhagia or enlarged uterus). The placement of a midurethral sling was associated concomitantly in patients presenting with patent or masked UI. Complications were described using the terminology of the International Urogynecological Association (IUGA) and the ICS [10].

Postoperatively (at two months of follow-up), clinical results were assessed objectively using the POP-Q. Postoperative functional outcomes were also recorded: *de novo* SUI and vaginal mesh exposure were sought. Functional complaints were recorded, including *de novo* UI, dyspareunia, bladder outlet obstruction, straining to defecate and constipation. Surgery was considered successful if the patient was satisfied or very satisfied and if the POP score (according to the POP-Q) was below stage 2 for all compartments. The satisfaction rate was evaluated using a scale: very unsatisfied, unsatisfied, satisfied, very satisfied.

All patients were contacted postoperatively using a postal questionnaire at two years of follow-up. The questionnaire concerned overall satisfaction (numerical scale: very unsatisfied, unsatisfied, satisfied, very unsatisfied), functional results, postoperative complications or surgical failure over the time according to the patient's point of view. Validated questionnaires including PGI-I, EQ-5D, MHU, ICIQ-UI-SF, PFIQ-7, PDFI-20 and PISQ-12 were used [11,12].

The Ethical Review Committee (CEROG) approved this study (CEROG-GYN-2014-0202R01). Written informed consent was obtained from all patients.

Statistical analyses of the data were performed using R statistical software (Bell Laboratories, Lucent Technologies, Paris, France). Descriptive statistics are shown as medians and IQRs (interquartile range; 25th–75th). The Mann–Whitney *U* test was used to compare continuous variables, and Fisher's exact test compared categorical variables. A p value below 0.05 was considered to be statistically significant.

Results

191 women underwent consecutive laparoscopic sacrocolpopexy during the study period. The study group consisted of 47 women aged 70 or more. The control group consisted of 144 women under 70. Patient characteristics in the two groups were similar: BMI (25.7 *vs.* 24.2, p = 0.37), parity (2 *vs.* 2, p = 0.6), number of vaginal deliveries (2 *vs.* 2, p = 0.72) and pessary use (14.9% *vs.* 15.3%, p = 0.86). There was no between-group difference in previous surgical treatment of genital prolapse (0% *vs.* 3.5%, p = 0.99) or previous hysterectomy (8.51% *vs.* 6.25%, p = 0.84). Patients older aged 70 or more differed significantly from younger women in terms of age (74 *vs.* 55, $p < 0.001$), menopausal status (100% *vs.* 62.5%, $p < 0.001$) and patent or masked UI (25.5% *vs.* 46.5%, p = 0.018) (Table 1).

There was less concomitant use of midurethral slings in the older group: 25.5% *vs.* 46.5% (p = 0.01). There was no significant difference between the older versus younger groups in concomitant subtotal hysterectomy (21.3% *vs.* 33.3%, p = 0.17) or the number of meshes placed (two meshes in 91.5% *vs.* 92.4%, p = 0.76) (Table 2). Perioperative complication rates were similar in the older and younger groups: bladder injuries (0 *vs.* 1.39%, p = 1), rectal injuries (0 *vs.* 0.69%, p = 1), vaginal injuries (2.13% *vs.* 0, p = 0.246). Abdominal open laparotomy conversion was not required for any patient in either group (Table 3).

At two months of follow-up, the overall anatomical success rate was 97.87% and 95.14% for the older and younger groups,

Table 1
Patient characteristic.

	<70 years old	≥70 years old	p
n	144	47	
Age (years) median	55(47.75–62)	74 (71–75.5)	0.001†
BMI Kg/m^2	24.24 (21.71–28.12)	25,72 (23.39–27.07)	0.37†
Parity n (%)	2 (2–3)	2 (2–3)	0.6†
Menopausal status n (%)	90/144 (62.5%)	47/47 (100%)	0.940‡
Previous prolapse surgery n (%)	5/144(3.47%)	0/47(0%)	0.98‡
POP stage (ICS POP-Q)			
Stage 2	47/144 (32.6%)	7/47 (14.9%)	0.030‡
Stage 3	72/144 (50%)	25/47 (53.2%)	0.832‡
Stage 4	25/144 (17.4%)	15/47(31.9%)	0.054‡
SUI n (%)	67/144 (46.5%)	10/47 (21.3%)	0.018‡

Abbreviations: ICS, International Continence Society; BMI, body mass index; IQR, interquartile range; SUI, stress urinary incontinence; n, number; POP-Q, pelvic organ prolapse quantification.
† Kruskal-Wallis test.
‡ Fisher's exact test.