

Geriatric Pelvic Organ Prolapse Surgery: Going the Extra Mile

Seethalakshmi Krishnan¹

Received: 28 November 2016 / Accepted: 17 April 2017 / Published online: 19 May 2017
© Federation of Obstetric & Gynecological Societies of India 2017

About the Author



Dr. K. Seethalakshmi is a certified urogynaecologist and currently working as HOD (Department of Gynaec Oncology) of Govt. Aringar Anna memorial hospital and Regional Cancer Centre, Kanchipuram. She has completed a fellowship in Urogynaecology in Landesklinikum Hospital, Austria, in 2009. She has held Faculty positions in IUGA POP Q Workshop in Italy, 2009, and presented a case study at IUGA Conference, Washington DC, 2014. She has been a reviewer in International Urogynaecological Journal since 2011, serves as the Secretary of URPSI (Urogynaecology and Reconstructive Pelvic Surgery Society of India). She has 13 publications. She is an excellent teacher and presenter.

Abstract

Background To assess the quality of life in geriatric patients after reconstructive and obliterative vaginal surgery for advanced pelvic organ prolapse (POP).

Methods Prospective observational study was conducted between January 2009 and December 2014 at the department of Urogynaecology, Government Kasturbha Gandhi

Hospital. A total of 424 women (between the age group of 60 and 94 years) with advanced pelvic organ prolapse underwent vaginal hysterectomy along with vaginal apical suspension procedures which were McCalls culdoplasty (35.02%), sacrospinous ligament suspension (8.3%), high uterosacral ligament suspension (26.2%), iliococcygeus fixation (4.6%) for stage 3–4 POP. Abdominal sacro-colpopexy (3.2%) was done for stage 3–4 vaginal vault prolapse. Patients with medical comorbidities underwent Leeforts partial colpocleisis (8.1%) and total colpocleisis (2%) for stage 3 and 4 POP. Site-specific repair (12.5%) was done for stage 3/4 cystocele and rectocele. The main outcomes measured were subjective cure (no prolapse), subjective improvements in pelvic floor symptoms as per the pelvic floor impact questionnaire, and objective cure (no prolapse of vaginal segment on maximum straining). **Results** Mean age of the patient was 64.29 years. The major complication rates were less than 1%. 85% were

Seethalakshmi Krishnan is a Professor and Head in Department of Gynaec oncology, Government Aringar Anna Memorial Cancer Hospital and Regional Cancer Centre, Kanchipuram, Tamil Nadu, India

✉ Seethalakshmi Krishnan
siva.seetha@yahoo.co.in

¹ Department of Gynaec Oncology, Government Aringar Anna Memorial Cancer Hospital and Regional Cancer Centre, Kanchipuram, Tamilnadu, India

examined at 3 and 12 months. The subjective cure rate at 12 months is 92% and the objective cure rate is 94.5%.

Conclusion The geriatric patients who underwent either reconstructive or obliterative procedures were relieved of their preoperative symptoms and their quality of life had greatly improved.

Keywords Geriatric pelvic organ prolapse · Apical suspension procedures · Colpocleisis · Quality of life

Introduction

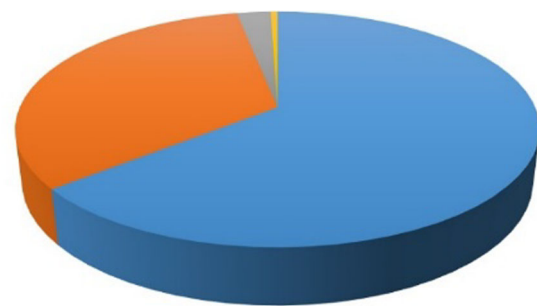
India is likely to see its 60-plus population swell from 80 million to nearly 200 million over the next 15 years. Safe surgery not only saves lives but also improves the quality of life in geriatric women with advanced pelvic organ prolapse. In general, pelvic floor surgeries in geriatric women are associated with a higher incidence of postoperative complications (including a 13.6% higher chance of death) [1], but safe surgery ameliorates pelvic floor dysfunctions [2] and consequently enhances the quality of life by improving activities like micturition, defecation, and sex. Thus age need not be a barrier as long as safe procedures are adopted.

Objective

The objective was to compare the quality of life in geriatric patients after reconstructive and obliterative vaginal surgery for advanced pelvic organ prolapse. Patients aged 60 and above, with stage 3 or stage 4 pelvic organ prolapse, were enrolled. They underwent either reconstructive or obliterative vaginal procedures depending upon the stage of pelvic organ prolapse and associated medical comorbidities. Postoperative follow-up were done at 1, 6 and 12 months after surgery. The maximum follow-up period was 5 years.

Materials and Methods

Four hundred twenty-four patients in the age group of 60–94 years with pelvic organ prolapse were admitted in the department of Urogynaecology, Government Kasturba Gandhi Hospital, Chennai between January 2010 and December 2014 (Fig. 1; Table 1).



■ 60-70 years ■ 71-80 years ■ 81-90 years ■ 91-100 years

Fig. 1 Age versus POP, 424 women with POP admitted from January 2010 to December 2014, with ages ranging from 60 to 94 years, 60–70 years (64.1%), 71–80 years (33.01%), 81–90 years (2.5%), 91–100 years (0.23%)

Table 1 Age distribution

Number of women	Age (in years)
424	60+
272 (64.1%)	60–70
140 (33.01%)	71–80
11 (2.5%)	81–90
1 (0.23%)	90–100

Table 2 Criteria for pelvic organ prolapse surgery

Inclusion criteria	Exclusion criteria
Between 60 and 94 years	Below 60 years
Stage 3 and 4 POP, stage 3 and 4 isolated level 2 anterior and posterior defect	Stage 2 pelvic organ prolapse
Diabetes mellitus, hypertension, anaemia, hypo and hyperthyroidism	–
Kyphoscoliosis, scoliosis, chronic obstructive pulmonary disease, valvular heart disease and epilepsy	–

Inclusion Criteria

Patients with stage 3 and 4 pelvic organ prolapse aged 60 and above (Table 2).

Out of 424 women,

- 203 (47.8%) had stage 3 POP,
- 150 (35.3%) had stage 4 POP.
- 40 (9.4%) had stage 3–4 vault prolapse.
- 31 (7.3%) isolated level 2 anterior and posterior defect.

Associated conditions:

- 2.5% of women had ovarian tumour,
- 2.3% had fibroid,

- 1.4% had rectal prolapse,
- 1.1% had bladder stone.
- 3.06% had stress urinary incontinence.
- 22.1% had diabetes mellitus, hypertension, ischaemic heart disease, chronic obstructive pulmonary disease, anaemia, hypo- and hyperthyroidism, kyphoscoliosis, scoliosis, valvular heart disease, and epilepsy.

Exclusion Criteria

- Patients below 60 years of age.
- Patients with stage 2 pelvic organ prolapse.

Preoperative evaluation included complete urogynaecological history as per pelvic floor impact questionnaire. POPQ evaluation, Ultrasound KUB and pelvis were done routinely. Cystoscopy, intravenous urogram and computerised tomographic scan pelvis were done for indicated cases. After detailed discussion of surgical options, patients were assigned to either obliterative or reconstructive vaginal surgery.

The surgeries performed were vaginal hysterectomy with apical suspension procedures which were McCalls culdoplasty (35.02%), sacrospinous ligament suspension (8.3%), high uterosacral ligament suspension (26.2%) and iliococcygeus fixation (4.6%) for stage 3–4 POP. Abdominal sacrocolpopexy (3.2%) was done for stage 3–4 vaginal vault prolapse. Patients with medical comorbidities underwent Leeforts partial colpocleisis (8.1%) and total colpocleisis (2%) with extended perineorrhaphy for stage 3 and 4 POP. Majority of the surgeries were done under

regional anaesthesia. Site-specific repair (12.5%) was done for stage 3/4 cystocele and rectocele.

The operative time for vaginal hysterectomy with specialised apical suspension procedures varied from 150 to 180 min. The operative time for Leeforts colpocleisis varied from 60 to 90 min depending on the stage of POP. The average blood loss was less than 50 ml in vaginal hysterectomy with apical suspension procedures and less than 30 ml in obliterative procedures.

Postoperatively, Foley's catheter was removed on the fourth postoperative day in vaginal hysterectomy with apical suspension procedure group of patients and second postoperative day in colpocleisis group of patients. The duration of stay was 7 days for reconstructive procedures and 5 days for obliterative procedures.

Results

Perioperative complications included bladder injury (2.31%), rectal injury (1.85%), presacral vessel injury (1.38%) during abdominal sacrocolpopexy and ureteral injury (1.85%) in high uterosacral ligament suspension. All injuries were identified intraoperatively and corrected. 5.5% of patients had recurrence of anterior and apical prolapse after sacrospinous ligament fixation and iliococcygeus fixation (Fig. 2).

The main outcomes measured were subjective cure (no prolapse), subjective improvements in pelvic floor symptoms as per the pelvic floor impact questionnaire, and objective cure (no prolapse of vaginal segment on maximum straining).

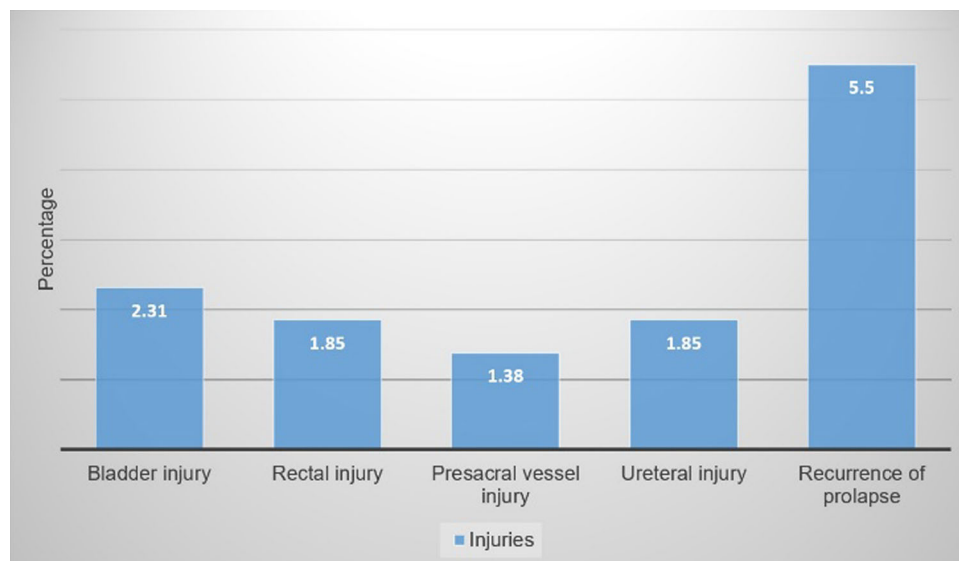


Fig. 2 Results of perioperative complications, bladder injury (2.31%), rectal injury (1.85%), presacral vessel injury (1.38%), ureteral injury (1.85%) and recurrence of prolapse (5.5%)

As per pelvic floor impact questionnaire, the patients were asked for bowel, bladder and pelvic symptoms which could impact activities of daily living, social relationships and emotions. All patients underwent a complete POPQ evaluation (which was not possible in those who underwent obliterative procedures). Patients were deemed as surgical failures if any segment of vagina prolapsed beyond hymen with maximal strain. Methods, definitions and diagnostic criteria of pelvic floor disorders conform to the standards recommended by International Continence Society [3].

Mean age of the patient was 64.29 years. 75% of patients were available for second-year follow-up and 30% were available for 5-year follow-up. 85% were examined at 3 and 12 months. The subjective cure rate at 12 months was 92% and the objective cure rate was 94.5%. In 5.5% of patients, prolapse recurred. No recurrence of prolapse after colpopoiesis for stage 3–4 POP in the 2-year follow-up. One patient aged 84 years died 1 month after colpopoiesis due to myocardial infarction.

The hypotheses are that the quality of life is improved and similar in geriatric patients following reconstructive and obliterative vaginal surgeries for advanced pelvic organ prolapse.

Discussion

The geriatric urogynaecology is receiving much attention because of global increase in female life expectancy and significant risk of associated pelvic floor dysfunction especially pelvic organ prolapse [4]. Women aged more than 80 years undergoing surgery for POP have 13.6 higher risk of postoperative death than their counterparts. Main concerns while treating geriatric patients are [5]:

1. Functional ageing with myogenic and neurological changes.
2. Polypharmacy.
3. Impaired cognitive function and risk of delirium.

Common medications in geriatrics include antiplatelet drugs which interfere with operative haemostasis. Antidepressants and neuroleptics may induce postoperative delirium, cognitive impairment and or voiding dysfunction [4]. Cognitively impaired elderly patients often develop postoperative delirium which is associated with increased falls, fractures and respiratory complications [5]. To prevent postoperative complications, preoperative preparation include strict adherence to day–night sleep cycle to prevent postoperative delirium, and avoidance of anticholinergic drugs at least four weeks prior to surgery to prevent postoperative voiding dysfunction.

Vaginal route is preferable for pelvic reconstructive surgery in geriatric patients, as it usually takes shorter

operating time and can be performed under regional anaesthesia [4]. Obliterative vaginal procedures are a good option for elderly patients who cannot tolerate extensive surgery and who are not planning future sexual activity [6].

Conclusion

The geriatric patients who underwent either reconstructive or obliterative procedures were relieved of their preoperative symptoms and their quality of life had greatly improved. Age should not deter the surgical treatment for geriatric especially octogenarian patients with pelvic organ prolapse. However, the risk of postoperative complications can be avoided by careful preoperative assessment and appropriate surgical management which needs expertise [5].

Multidisciplinary approach and awareness of pathophysiology of aging are important to minimise postoperative morbidity and mortality. Geriatric especially octogenarian patients with pelvic organ prolapse should be offered best surgical management as far as possible to improve their quality of their life.

Compliance with Ethical Standards

Conflict of interest Seethalakshmi Krishnan declares that she has no conflict of interest.

Ethical standards This prospective study was approved by Ethical Committee of Government Kasturba Gandhi Hospital, Madras Medical College, Chennai.

Human and Animal Rights This article does not contain any studies with animal subjects.

Informed Consent All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008(5). Informed consent was obtained from all patients for being included in the study.

References

1. Sung VW, Weitzen S. Effect of patient age on increasing morbidity and mortality following urogynaecologic surgery. *Am J Obstet Gynecol.* 2006;194:1411–7.
2. Chen GD, Ng SC. Functional and structural changes of pelvic floor in ageing women. *Incont Pelvic Floor Dysfunct.* 2007;1(3):81–4.
3. Barber MD, Amundsen CL. Quality of life after surgery for genital prolapse in elderly women. *Int Urogynecol J.* 2007;18:799–806.
4. Erekson EA, Ratner ES. Gynaecologic surgery in the geriatric patient. *Obstet Gynecol.* 2012;119(6):1262.
5. Stepp KJ, Mathew D. Incidence of perioperative complications of urogynecologic surgery in elderly women. *Am J Obstet Gynecol.* 2005;192(5):1630–6.
6. Betscart C, Rizk DEE. Pelvic floor surgery and the need for geriatric urogynaecology. *Int Urogynecol J.* 2014;25:297–8.