Perioperative Care and Operating Room Management 5 (2016) 20–26

Contents lists available at ScienceDirect

Perioperative Care and Operating Room Management

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

Same-day surgery for pelvic organ prolapse and urinary incontinence: Assessing satisfaction and morbidity☆

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ARTICLE INFO

Keywords:
Ambulatory surgery
Outpatient surgery
Pelvic organ prolapse
Same day surgery
Vaginal hysterectomy

ABSTRACT

Introduction: With vaginal hysterectomies and pelvic organ prolapse (POP) surgeries reclassified as outpatient surgeries in 2014, protocols had to be developed to minimize complications.
Material and methods: This was a prospective cohort of women undergoing same-day vaginal POP and urinary incontinence (UI) surgery. Primary aim was to assess patient satisfaction using a 10-point Likert scale (1=not satisfied, 10=very satisfied). Subjects completed the Quality of Recovery-15 (QoR-15) questionnaire prior to surgery, 48 hours postoperatively, and at 6-weeks.
Results: Sixty-one women were enrolled. Average operating time was 88.7 ± 41.3 minutes. Almost all patients (95.1%) were discharged the same day. Three patients (4.9%) stayed overnight for conversion to a laparotomy, pain control, and leg neuropathy. Patient satisfaction was 9.3 ± 1.6 and 9.4 ± 1 at 48 hours and at 6-weeks, respectively. There was a difference in the postoperative QoR-15 score from baseline to 48 hours 137.2 ± 12.4 vs. 127.1 ± 22.1 (p=0042), but no difference at 6-weeks compared to baseline (p=0.3578). Complications up to 6-weeks postoperatively included emergency room presentation (4.9%), hematoma (3.3%), re-admission (3.3%), and urinary tract infection (1.6%).
Conclusion: Same-day vaginal surgeries are well tolerated with minimal complications and high satisfaction. Our outpatient surgery protocol can be used as a management option for outpatient gynecologic surgeries.

1. Introduction

In 2012, an analysis of National Inpatient Sample database demonstrated that only 311,820 hysterectomies were performed as inpatient surgeries versus 681,234 in 2002.[1,2] It was proposed that the significant decline was partially attributed to a growing number of hysterectomies being performed in the outpatient setting. However, since surgery in the elderly is associated with higher morbidity and mortality, these patients are less than ideal candidates for outpatient surgical procedures.[7,8] To further complicate the issue; vaginal hysterectomies and pelvic organ prolapse (POP) surgeries were reclassified as an outpatient surgery in the United States by the Centers for Medicare & Medicaid Services (CMS).[9] The US Census Bureau has stated that the largest growing age group is those >65 years of age.[10] Combine this with estimates that the number of outpatient POP surgeries will increase to 68,600 in 2050, and surgeons will be faced with an aging surgical population being redirected into outpatient surgery centers.[11]

To date, very few studies have developed a protocol for same day discharge after POP surgery, especially in elderly populations. Zakaria et al. developed a protocol in which 96% of 1162 cases were discharged the same day after vaginal hysterectomies.[12] However, the median age was 46 (27–86) and only 7% of surgeries were performed for prolapse.[12]

Given that outpatient surgery might not be ideal for all age groups, we designed a prospective cohort study to assess patient tolerability and satisfaction with same day discharge for patients undergoing

☆ Presented at the 2nd annual Florida International University Resident and Fellow Research Day, April 27, 2015, the 41st annual International Urogynecological Association: Nice, France. June 9–13, 2015 and the 36th annual American Urogynecologic Society, Pelvic Floor Disorder Week: Seattle, WA, October 13–17, 2015.

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http://dx.doi.org/10.1016/j.pcorm.2016.12.003
Received 11 September 2016; Accepted 1 December 2016
Available online 05 December 2016

vaginal reconstructive surgery in a predominately elderly patient population. Our previous work has demonstrated that POP and stress urinary incontinence (SUI) surgery is safe in those older than 80 years of age when performed in the inpatient setting using a standardized postoperative care surgery protocol.[13] We hypothesize that elderly patients would tolerate ambulatory POP and/or SUI surgery with minimal complications after modifying our standardized postoperative care surgery protocol for same day discharge.

2. Materials and methods

This was a prospective pilot observational study at a single tertiary care institution to assess patient tolerability and satisfaction with same day discharge in women undergoing same day vaginal POP and/or SUI surgery from March 2014 to June 2014. Due to insurance companies and changes in hospital policy mandating surgeries be performed in the outpatient setting, we wanted to evaluate the protocol over a few months. We aimed to recruit 60 patients during this time frame based on our clinical volume to assess the safety and feasibility of the surgical protocol. Institutional review board (IRB) approval was obtained (IRB #FLA 13-105) and patients were consented using a standardized informed consent process. Prior to this study, patients were admitted in the hospital overnight with a Foley catheter and vaginal packing, and were discharged on postoperative day (POD) one after undergoing a voiding trial and having the vaginal packing removed. Modifications were made to our previously published standardized postoperative care surgery protocol to allow for same day discharge.[13] See Appendix A for full details of protocol. This study time frame was selected as it was immediately after POP surgery was reclassified as outpatient surgery by CMS.[9] The primary outcome was to assess patient satisfaction through a 10-point Likert scale, (1=not satisfied, 10=very satisfied), as well as patient preference to stay overnight and willingness to pay out of pocket to stay overnight (yes or no). Scripted questions were asked to assess these questions on the telephone at 48 hours and a printed survey with the same wording was used at the 6-week postoperative visit. The same person interviewed all patients on the phone. Our secondary outcomes were to evaluate patient tolerability through a validated questionnaire, the Quality of Recovery-15 (QoR-15) and to assess postoperative complications. Subjects completed the QoR-15 prior to surgery, during a telephone interview at 48 hours postoperatively, and at their 6-week postoperative visit. The survey was given preoperatively to have a baseline score for comparison. The QoR-15 contains five dimensions of health: pain (questions 11–12), physical discomfort (questions 1–4, and 13), physical independence (questions five and eight), psychological support (questions six and seven), and emotional state (questions 9–10).[14,15] There are 15 questions, graded on an 11 point scoring system from zero to ten, with a total score of 150. A higher score is associated with a higher quality of recovery. Postoperative complications were evaluated up to 6 weeks post-operatively through the electronic medical record as well as through questioning during the patient visits.

Subjects were included if they were greater than 18 years of age and were planning on undergoing vaginal reconstructive surgery, which could have included one or more of the following procedures: an anterior and posterior (A & P) vaginal wall repair, enterocele repair, sacrospinous ligament fixation (SSLF), uterosacral ligament suspension, McCall culdoplasty, total vaginal hysterectomy (TVH), apical vault suspension, midurethral slings, vaginal mesh removal, vaginal fistula repairs, or colpocleisis. Subjects were excluded if they had a medical condition or were planning a robotic or open procedure that required an overnight hospital admission. All subjects who met eligibility in the study were invited to participate.

2.1. Outpatient surgery protocol

2.1.1. Pre-operative

Subjects received standardized preoperative counseling. A check list was used to ensure all areas were covered, including 1) the expectation that subjects would be discharged home the same day 2) the possibility of being discharged home with an indwelling catheter if unable to void after surgery, and 3) an explanation of normal postoperative expectations and symptoms including pain, nausea, and vaginal bleeding.

2.1.2. Anesthesia

General or spinal anesthesia was administered based on patient preference and anesthesiology recommendations. General anesthesia included propofol induction, in combination with a muscle relaxant and inhalational gas per anesthesia standard of care at our institution. Spinal anesthesia included bupivacaine 0.75%, 8–12 mg dose depending on estimated duration of surgery and anesthesiologist decision. In addition to spinal anesthesia, these patients could have had concurrent administration of fentanyl, midazolam, and propofol.

2.1.3. Intra-operative

Patients were given pneumatic compression devices, positioned in padded knee-high boot stirrups, and given prophylactic antibiotics. A Foley catheter was placed at the start time of surgery. Surgeries were performed by two fellowship trained urogynecologists. Lidocaine with 1% epinephrine was utilized to minimize bleeding and assist in hydrodissection. The use of oxidized regenerated cellulose was placed under the discretion of the surgeon for bleeding control. Vaginal packing with metronidazole gel soaked gauze was placed after surgery for a minimum of one hour.

2.1.4. Post-operative

The voiding trial was performed in the recovery area once subjects were able to stand and ambulate to the bathroom. The voiding trial protocol consisted of removing the vaginal packing and back filling the bladder with 300 cc of saline or a tolerable volume. A voiding trial was considered successful if the subject voided at least two-thirds of the total volume instilled and had a bladder ultrasound showing less then 100 cc. Subjects unable to void after two hours had a Foley catheter replaced and were given prophylactic antibiotics to take during the duration of catheterization. A repeat voiding trial was conducted in the office between POD five to seven. Medications used during recovery included morphine, ketorolac, and ondansetron. Patients were monitored in the recovery room area for a minimum of two hours to ensure pain control, trial of oral intake, stable vital signs, and no complications of surgery. Patients who lived further than a couple hours away were suggested to stay at a nearby hotel overnight. All subjects were discharged home the same day unless there were surgical or medical complications requiring an overnight stay or higher level of care. Patients were discharged home with non-steroidal anti-inflammatories, opioid analgesics, stool softeners, and laxatives. The use home health was not routinely used. Patients received two phones within 48 h of surgery from a nurse and an urogynecology.

2.2. Calculation

Statistical analysis was completed using JMP Pro Version 10 (SAS Institute, Cary, NC).

Univariate analysis was calculated using mean, standard deviation, and medians. Continuous data was tested for normality using the Shapiro-Wilk Test. Our secondary outcome, compared baseline QoR-15 to postoperative QoR-15 using mean change with confidence intervals, and percent change from baselines. Difference in mean score values were calculated using a paired t-tests. Statistical significance was considered with an alpha level of less than 0.05.