Abstract

Objective: To evaluate outcomes of urogynecologic surgery patients with postoperative care in an overnight-stay unit.

Methods: A retrospective cohort study of women admitted to an overnight-stay unit at a Canadian tertiary care center.

Results: 1578 patients (96%) were discharged within 24 hours of surgery. Surgical approaches included laparoscopy (8.9%), major vaginal surgery (70.9%), and open retropubic procedures (2.1%) and 68.1% of patients had a hysterectomy. 101 patients (6.1%) were assessed in the emergency department within 7 days of surgery and 57 (3.5%) were readmitted to hospital within 30 days of their procedure. Multivariable regression identified the following as risk factors for failed next-day discharge: pulmonary disease (OR 22.64), longer operating time (OR 1.40–2.02), and intraoperative hemorrhagic complications (OR 2.52). Conclusions: Admission to an overnight-stay unit with next-day discharge is feasible for most patients undergoing urogynecologic surgery.

Introduction

Most providers admit patients to hospital following vaginal reconstructive surgery, with many sources reporting average lengths of stay of over 48 hours for common procedures such as vaginal hysterectomy with apical suspension 8. Short-stay surgical units used in a number of surgical disciplines 9, however, data on the effectiveness of this approach and identification of risk factors for failure of these protocols are scarce, particularly in urogynecology, as reports of “fast-track” vaginal surgery protocols have generally described small patient cohorts with no or very few hospital readmissions 10.

Research question from patients undergoing enhanced recovery protocols and may benefit from a longer admission stay unit 12. Hemorrhagic complications (which were identified as risk factors for failed next-day discharge, including variables previously suggested to influence hospital length of stay or need for reoperation. 13. All analyses were performed using Statas 5.1. A two-tailed level of 0.05 was used to define statistical significance.

Methods and Materials

• Retrospective cohort study of female patients who had urogynecologic procedures at a tertiary care centre

• Inclusion criteria:— 18 years of age or older at the time of procedure – Surgery between January 1, 2014 and June 30, 2018 – Surgery performed by one of 7 fellowship trained surgeons – Booked for overnight-stay unit prior to surgery.

• Patients were deemed to have failed next-day discharge if they had: — Hospitalized beyond 10 a.m. on the day after surgery – Emergency room for assessment within 7 days of surgery – Readmitted to hospital within 30 days of surgery – Reoperated within 30 days of surgery.

• A manual medical record review was completed for all patients with failed next-day discharge.

• Continuous variables are reported as mean ± standard deviation (SD) and were compared using t-tests. Categorical variables are reported as number (%) and were compared via Chi square tests.

• A prespecified multivariable logistic regression model was fit using patients with complete data to identify potential risk factors for failed next-day discharge, including variables previously suggested to influence hospital length of stay or need for reoperation.

• A summary of flow through overnight-stay unit

Table 1. Indications for failed overnight-stay unit amongst overnight unit patients

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Age (per 10 year increase)</th>
<th>P value</th>
<th>Procedure</th>
<th>Age (per 10 year increase)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laporotomy</td>
<td>1.00 (reference)</td>
<td>0.006</td>
<td>Major vaginal surgery</td>
<td>0.47 (0.27–0.81)</td>
<td>0.007</td>
</tr>
<tr>
<td>Minor vaginal surgery</td>
<td>0.83 (0.29–3.63)</td>
<td>0.728</td>
<td>Laparoscopic</td>
<td>0.50 (0.26–0.98)</td>
<td>0.044</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>1.03 (0.30–3.94)</td>
<td>0.667</td>
<td>Pulmonary disease</td>
<td>1.36 (1.32–8.06)</td>
<td>0.010</td>
</tr>
<tr>
<td>Diabetic</td>
<td>0.92 (0.79–1.02)</td>
<td>0.086</td>
<td>Urinary incontinence</td>
<td>1.19 (0.95–2.02)</td>
<td>0.090</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1.13 (0.65–2.65)</td>
<td>0.456</td>
<td>Incontinence</td>
<td>1.10 (0.68–1.73)</td>
<td>0.724</td>
</tr>
<tr>
<td>Pulmonary disease</td>
<td>1.40 (1.30–7.97)</td>
<td>0.006</td>
<td>Hysterectomy</td>
<td>22.64 (5.83–88.00)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Urinary incontinence</td>
<td>1.19 (0.95–2.02)</td>
<td>0.090</td>
<td>Non-hemorrhagic complication</td>
<td>1.29 (0.45–3.73)</td>
<td>0.637</td>
</tr>
<tr>
<td>Incontinence</td>
<td>1.10 (0.68–1.73)</td>
<td>0.724</td>
<td>Hemorrhagic complication</td>
<td>22.64 (5.83–88.00)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>1.40 (1.30–7.97)</td>
<td>0.006</td>
<td>Non-hemorrhagic complication</td>
<td>1.29 (0.45–3.73)</td>
<td>0.637</td>
</tr>
</tbody>
</table>

Discussion

Hemorrhagic complications and prolonged operating room duration were identified as risk factors for failed next-day discharge and were used as markers for more complex surgeries. These surgical factors may be less valuable for pre-operative selection of patients suitable for overnight unit stay but may prompt reevaluation regarding suitability for overnight stay immediately after surgery. Age, hysterectomy, diabetes, non-hemorrhagic complications (which were mainly bladder injuries) and morbidity of anasthesia did not seem to be significant risk factors for failed overnight-stay unit.

Uncontrolled confounders may account for the higher rate of failure amongst minor vaginal surgery patients. Typically, patients having minor vaginal surgery are booked for day surgery and discharged within a few hours of the procedure. The surgeon/anaesthetist’s choice to admit a subgroup of these patients to the overnight-stay unit may be related to other comorbidities or sociodemographic issues precluding them from day surgery.

Conclusions

Overnight-stay unit is successful for most patients undergoing urogynecologic surgery, particularly for many women having major vaginal reconstructive surgery. Women undergoing major gynecologic or laparoscopic surgery have fewer odds of failed next-day discharge compared to those undergoing laparotomy although 80.9% of patients having laparotomy still had successful overnight unit stay.

Table 3. Multivariable analysis of risk factors for failed overnight unit stay.

References