

Perioperative Complications of Urogynecologic Surgery: Our Experience in a Tertiary Care Hospital

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ABSTRACT

OBJECTIVE: The aim of this study was to determine the incidence of perioperative complications in women who undergo urogynecologic surgery.

STUDY DESIGN: A retrospective chart review of patients who underwent urogynecologic surgery between January 2014 and January 2016 was performed. The type of surgeries and significant perioperative complications were recorded. Intraoperative complications included, injury of nerves, bowel, bladder or ureter, intraoperative blood transfusion, conversion to laparotomy and anesthesia-related events.

RESULTS: The sample included 120 consecutive women who underwent urogynecological surgeries. The mean age of the patients was 53 (range, 34-88 years). 46% of the patients had one or more of medical problems. 55% percent of the patients had previously undergone a pelvic surgery. 70% of the patients had surgeries by vaginal approach, 10% of them had by abdominal approach and 20% of them had surgeries by laparoscopic approach. The prevalence of complications was 27.5%. This included 11 intraoperative complications (6 cases bladder injury, 2 cases transfusion) and 21 postoperative complications.

CONCLUSION: In conclusion, the number of women undergoing surgery for pelvic organ prolapse, urinary incontinence, and anal incontinence continues to increase, the present study provides useful statistical data for our country.

Keywords: Perioperative complication, Pelvic organ prolapse, Urogynecology

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Introduction

Pelvic floor disorders such as urinary incontinence and pelvic organ prolapse affect older women disproportionately (1). Pelvic floor disorders by themselves rarely cause severe morbidity or death. It is therefore important to balance the potential benefits against the risks that may result when surgery is being considered for the treatment of these disorders. The patient population undergoing urogynecologic surgery in-

cludes women who are often older, have undergone previous pelvic surgery, and have comorbidities (2). Therefore, we have to manage the problems very carefully especially in urogynecologic patient population. Urogynecologic surgery often entails meticulous dissection near the bladder, rectum, ureters, and great vessels of the pelvis. Surgical prognosis depends upon the severity of symptoms, extent of the prolapse, physician experience, and patient expectations.

The prevalence of perioperative complications associated with general gynecologic surgery has been reported to be between 0.2% and 26% (3-5). Much of the literature discussing the complications is drawn from the gynecologic literature. However, it is unclear whether the aforementioned findings can be applied toward other urogynecological surgeries that include incontinence and prolapse procedures.

The aim of this study was to report on the prevalence of both intraoperative and postoperative complications associated with urogynecologic surgery.

Material and Method

We performed a retrospective chart review on all patients who underwent urogynecologic surgery at our institution between January 2014 and December 2015. All procedures that were performed by 3 urogynecologic surgeons at Bakirkoy Dr. Sadi Konuk Teaching and Research Hospital, Istanbul (H.C.,

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H.D., M.E.) during the study period were identified with the operating room schedulers' database. A resident participated in all cases.

Intraoperative complications included injury to structures such as nerves, bowel, bladder or ureter; the need for intraoperative blood transfusion; the need for conversion to laparotomy; and anesthesia-related events. Significant postoperative complications comprised of events such as pulmonary edema, pulmonary embolism, prolonged oxygen requirement, pneumonia, congestive heart failure, myocardial infarction, arrhythmia, infections near or at the operative sites, sepsis, small-bowel obstruction, and renal failure.

We reviewed all the paper charts and also all outpatient records and emergency room visits were available through the hospital wide computer-based charting system after. Dictated operative notes, discharge summaries, and outpatient and emergency room reports were reviewed to identify all intraoperative and postoperative (6 weeks) complications. Readmissions to the hospital and reoperations were included within a 12-month follow-up period. Data analysis for statistical evaluation was performed using the Number Cruncher Statistical System (NCSS) version 2007 (Kaysville, Utah, USA).

Results

The sample included 120 consecutive women who underwent urogynecological surgery between January 2014 and December 2015. The subjects had a mean (\pm SD) age of 53 (range, 34-88 years). Forty-six percent of the patients had one or more of the following chronic medical problems: hypertension, cardiac disease, gastroesophageal reflux, peptic ulcer disease, thyroid disease, diabetes mellitus, renal disease, neurologic disease, and thromboembolic disease. Fifty-five percent had previously undergone surgery. All subjects received intraoperative prophylactic antibiotics. Deep vein thrombosis prophylaxis included compression stockings in all cases during the operation and after the operation until they were ambulatory with the addition of low-dose heparin administered subcutaneously in 76%. The procedures that were performed during the study period are shown in table 1. Seventy-five percent of patients (n=90) had ≥ 1 procedure performed. Surgery was performed by the vaginal approach in 70% of patients, by the abdominal approach in 10% of patients, by the laparoscopic approach in 20% of patients. Fifty-eight percent of patients had general anesthesia; 34.5% of patients had regional anesthesia, and 7.5% of patients had intravenous sedation only. The mean operative time was 140 minutes (range, 16-320 minutes).

The prevalence of complications was 27.5%. This included 11 intraoperative complications and 21 postoperative complications. Perioperative complications are shown in table 2. One patient had febrile morbidity of unspecified etiology

that resolved spontaneously. Two patients were readmitted for complications (pyelonephritis and wound infection), which brings the total number of readmissions to 2.

Table 1: Summary of urogynecologic surgery procedures

Procedure	Cases (No.)
Abdominal procedure	
Sacral colpopexy or Hysteropexy	6
Retropubic urethropexy (Burch)	6
Laparoscopy procedure	
Laparoscopic sacral colpopexy or Hysteropexy	17
Laparoscopic Burch	4
Laparoscopic paravaginal defect repair	3
Vaginal procedure	
Vaginal hysterectomy	43
Sacrospinous suspension	23
McCall culdoplasty	30
Vaginal enterocele repair	3
Mid-urethral slings (TVT, TOT, SIS)	45
Anterior or Posterior colporrhaphy	44
Vaginal paravaginal defect repair	12
Colpectomy/colpocleisis	4

Table 2: Perioperative complications

Types	Cases (No.)
Intraoperative complication	
Bladder injury	6
Blood transfusion	2
Postoperative complication	
Wound infection	6
Ileus	1
Pelvic infection	1
Arrhythmia	1
Anemia	5
Postoperative transfusion	3
Urinary tract infection	3
Neurologic	1

Discussion

As far as we know, our study is the first to report on the prevalence of perioperative complications specific to urogynecologic surgery in the Turkish literature. Harris reported less bladder complication in contrast to our study findings (5). The prevalence of this complication appears to be increased for reconstructive pelvic surgery compared with routine gynecologic surgery. The present study found the same bladder injury rate (6%), similar to the report of Lambrou et al. (2). Intraoperative recognition of urinary tract injury is paramount in preventing potentially harmful long-term complications related to the injury. We perform routine intraoperative cystoscopy for all patients undergoing reconstructive pelvic surgery.

In contrast to the results reported by Lambrou (2), we did not find any thromboembolic event despite the similar characteristics of the study populations. We think that the difference is due to the improvements in the surgical techniques. In addition, we use low-molecular weight heparin therapy liberally for prophylaxis against venous thrombosis.

Stepp et al reported low incidence of significant perioperative morbidity from their cohort of elderly women who undergo pelvic reconstructive surgery and revealed that perioperative complications are not substantially different from other general gynecologic surgeries (6). The rate of transfusion in the Lambrou study was 16%, whereas our rate of significant bleeding was 1.6% (2). Our infectious morbidity rates were consistent with previously published rates. Our incidence of wound infection, which was defined as cuff cellulitis or skin infection, was 5%. Previous reports ranged from 3.9% to 10% after vaginal hysterectomy (5). The reported incidence of fever of unknown cause is 16.8% with abdominal hysterectomy (3) and 5% to 8% after vaginal hysterectomy (5). We observed only one patient had a fever of unknown cause that improved without treatment. This difference is anticipated due to the nature of the surgical routes. Kjerulff et al reported a mortality rate of 3 per 10,000 in all urogynecological surgeries in the United States (7). In contrast, we do not have any national statistics report about the mortalities in urogynecologic procedures in Turkey. In our series none of our patients died in a year after the surgical procedure. Our results are not consistent with a study that evaluated 3322 hysterectomy patients that found that cardiopulmonary complications were the most frequent type of perioperative morbidity (3.6% vs 0.8%) (8).

Observational and retrospective nature of this study without a control group and the limited sample size are the limitations of our study. On the other hand, the strength of this study is to provide a useful statistical data for our country. In conclusion, the number of women undergoing surgery for pelvic

organ prolapse, urinary incontinence, and anal incontinence continues to increase. Therefore, we need further studies to understand the complications of urogynecological procedures in larger populations.

✉: *The authors reported no conflict of interest.*

References

1. Luber KM, Boero S, Choe JY. The demographics of pelvic floor disorders: current observations and future projections. *Am J Obstet Gynecol* 2001;184(7):1496-501.
2. Lambrou NC, Buller JL, Thompson JR, Cundiff GW, Chou B, Montz FJ. Prevalence of perioperative complications among women undergoing reconstructive pelvic surgery. *Am J Obstet Gynecol*. 2000;183(6):1355-8.
3. Dicker RC, Greenspan JR, Strauss LT, Cowart MR, Scally MJ, Peterson HB, et al. Complications of abdominal and vaginal hysterectomy among women of reproductive age in the United States. The Collaborative Review of Sterilization. *Am J Obstet Gynecol* 1982;144 (7):841-8.
4. Mirhashemi R, Harlow BL, Ginsburg ES, Signorello LB, Berkowitz IL, Feldman S. Predicting risk of complications with gynecologic laparoscopic surgery. *Obstet Gynecol* 1998;92(3):327-31.
5. Harris WJ. Early complications of abdominal and vaginal hysterectomy. *Obstet Gynecol Surv* 1995;50(11):795-805
6. Stepp KJ, Barber MD, Yoo EH, Whiteside JL, Paraiso MF, Walters MD. Incidence of perioperative complications of urogynecologic surgery in elderly women. *Am J Obstet Gynecol*. 2005 May;192(5):1630-6.
7. Kjerulff K, Langenberg P, Guzinski G. The socioeconomic correlates of hysterectomies in the United States. *Am J Public Health* 1993;83(1):106-8.
8. Boyd ME, Groome PA. The morbidity of abdominal hysterectomy. *Can J Surg* 1993;36(2):155-9.