

Incidence of Gynaecological and Obstetric Complications Immediately After Surgical Procedure; A Retrospective Study

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Abstract

Objective: To assess the incidence of gynecological and obstetric complications reported immediately after surgical procedures.

Methodology: This retrospective study was conducted in Pak international hospital a tertiary care private institute in Peshawar from January 2022 to December 2022. The Institutional Review Board approved the study protocol. 150 female patients, who received elective or emergency surgical procedures were enrolled in the study using non-probability, purposive sampling method. Informed consent was taken from all the study participants. Data was collected using a pre-designed proforma. Departmental record was scanned for retrospective data of the patients. Demographic data and comorbidity information of the patients was also recorded. The collected data was subjected to SPSS version 21 for analysis. Mean and SD was calculated for age and hospital stay whereas, percentage and frequency was premeditated for comorbidity type.

Results: The mean age of the patients was recorded as 30.0±6.24 year whereas; mean hospitalization time was recorded as 3.0±1.0 days. Majority of the study participants i.e. 138 (92.0%) were Muslim with an exception of 4 (2.66%) women who were from Christianity, 2 (1.33%) from Hindu religion and 6 (4.0%) from Sikh religion. As for as their socioeconomic status is concerned, 15 (10.0%) were from lower class, 104 (69.33%) from middle and rest of the 31 (20.66%) from an upper class. Out of 150 participants, 21 (14.0%) had an obesity, 30 (20.0%) were anemic whereas, 9 (6.0%) possessed DM. post-op vomit and nausea was observed in majority of the study participants i.e. in 108 (72.0%) patients followed by fever in 32 (21.33%) patients. 10 (6.66%) patients were observed with post-op gastritis, abdominal distention and paralytic ileus. SSIs (dehiscence) was observed in only 3 (2.0%) patients whereas wound infection was monitored in 8 (5.33%) patients.

Conclusion: Our study concluded that post-op nausea and vomiting was the most communal impediment in gynecological surgeries followed by fever, anemia, obesity, DM and gastritis subsequently. A poor rate of SSI (dehiscence) and wound infection was reported in the study participants.

Keywords: Gastritis, Obesity, Diabetes, Nausea, Anemia.

Cite this article as: Mumtaz A, Masud A, Yousaf A, Ahmad W. Incidence of Gynaecological and Obstetric Complications Immediately After Surgical Procedure; A Retrospective Study. J Soc Obstet Gynaecol Pak. 2023; 13(2):166-170.

Introduction

All of the surgical procedures are associated with the complication's risk. Following surgical procedure, the complication chances are dependent on numerous factors including patient's age, their functional status, weight, nourishment, compliance level, hygiene, and morbidities etc.¹ The chances of complications are equal before and after the surgical procedure. The intraoperatively complications can be settled down quickly upon immediate recognition throughout the surgery management. Reports showed that obs & gynae

surgical interventions accounts for more or less 75% of iatrogenic damages to the UT (urinary tract).² Injuries to urinary tract can worsen and complicate the gynecological surgeries. The most executed surgeries in Gynae section are considered to be the cystectomy, salpingectomy and hysterectomy.³ The most common post-operative gynecological complications observed are UTIs, fever, upper RTIs, urinary retention, abdominal distention and SSIs (surgical site infections). Among these, surgical site infections alone accounts for 0.5-15% of the total post-op difficulties.⁴ According to a WHO

Authorship Contribution: ^{1,2,3}Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work, Final approval of the version to be published, ⁴Active participation in active methodology.

Funding Source: none
Conflict of Interest: none

Received: Dec 19, 2022
Accepted: May 14, 2023

report, 11.8 of 100 surgeries in middle and low economic regions may become victims of the SSIs.⁵ The reason is wither patient or surgeon related.

CDC (Center for Disease Control and Prevention) has declared SSI as any infection that occurs within 30 days after a surgical procedure.⁶ Duration of the hospital stay and readmissions contribute more towards the onset of SSIs resulting in an upsurge morbidity and mortality rate.⁷ Moreover, many other risk factors are involved in post-op gynecological complications. These include cesarean section majorly.^{8,9} Furthermore, pregnancy with anemia, DM and HTN (hypertension) have greater odds to progress SSIs following C-Section.¹⁰ It has been reported that the incidence of cesarean section is intensifying at a significant rate due to which, post-op care for these women needs immediate consideration all around the globe. In the year 2014, 1.3 million Cesarean deliveries (CDs) were done in the US.¹¹⁻¹⁴ Post-op complications that are associated with cesarean deliveries are numerous. These including chorioamnionitis, labor dystocia, fetal membrane's pre-labor breakage, and emergency delivery etc.¹⁵⁻¹⁶ Similarly, GI discomforts are one of the commonest post-op impediments.¹⁷ Nausea, intestinal gas retaining problem, abdominal throbbing, and abdominal expansion is triggered by Ileus that happens due to intestinal management, reduced peristaltic movements, and immovability of intestine. Furthermore, posturing, nauseas and vomiting results in patient's dissatisfaction and make lengthier hospitalization.¹⁸

Due to availability of limited regional data regarding post-op gynecological complications, the rationale of the study was to assess the incidence of gynecological and obstetric complications immediately after surgical procedure.

Methodology

This retrospective study was conducted in a Pak international hospital a tertiary care private institute in Peshawar from January 2022 to December 2022. The Institutional Review Board approved the study protocol. 150 female patients, who received elective or emergency surgical procedures were enrolled in the study using non-probability, purposive sampling method. Informed consent was taken from all the study participants. Data was collected using a pre-designed proforma. Departmental record was scanned for retrospective data of the patients. Demographic data like age, education, cast, religion, duration of hospital stay and comorbidity information of the patients like DM,

obesity and anemia etc. was also recorded. Post-operative complications were also noted. The collected data was subjected to SPSS version 21 for analysis. Mean and SD was calculated for age and hospital stay whereas, percentage and frequency was premeditated for comorbidity like DM, obesity, anemia and post-op complications.

Results

In our investigation, the mean age of the patients was recorded as 30.0±6.24 year whereas; mean hospitalization time was recorded as 3.0±1.0 days. Mean weight was 62.0±10.30 whereas mean BMI of the study participants was recorded as 25.8±4.22. Majority of the study participants i.e. 138 (92.0%) were Muslim with an exception of 4 (2.66%) women who were from Christianity, 2 (1.33%) from Hindu religion and 6 (4.0%) from Sikh religion. As for as their socioeconomic status is concerned, 15 (10.0%) were from lower class, 104 (69.33%) from middle and rest of the 31 (20.66%) from an upper class.

78 (52%) women had no formal education, 42 (28%) had possessed formal education till middle class and 30 women (20%) had completed their graduation. The results are shown in table and figure 1 below.

Table I: Demographic Characteristics of the study participants

Variables	Mean±SD
Age (Years)	30.0±6.24
Weight (Kg)	62.0±10.30
BMI (kg/m ²)	25.8±4.22
Hospital stay (Days)	3.0±1.0
Socioeconomic status	
Lower Class	15 (10.0%)
Middle Class	104 (69.33%)
Upper Class	31 (20.66%)
Education	
No Formal Education	52% (n=78)
Formal Education(Middle)	28% (n=42)
Graduation	20% (n=30)

Out of 150 participants, 21 (14.0%) had an obesity, 30 (20.0%) were anemic whereas, 9 (6.0%) possessed DM. post-op vomit and nausea was observed in majority of the study participants i.e. in 108 (72.0%) patients followed by fever in 32 (21.33%) patients. 10 (6.66%) patients were observed with post-op gastritis, abdominal distention and paralytic ileus. SSIs (dehiscence) was observed in only 3 (2.0%) patients whereas wound infection was monitored in 8 (5.33%) patients. The results are shown in figure 2 below.

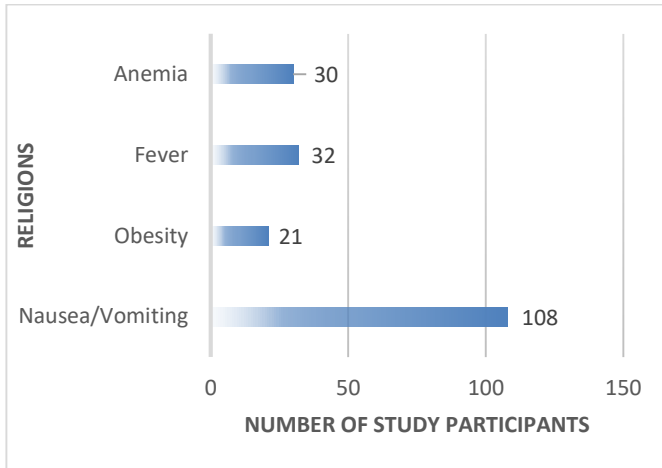


Figure I. Cast wise distribution of the study participants

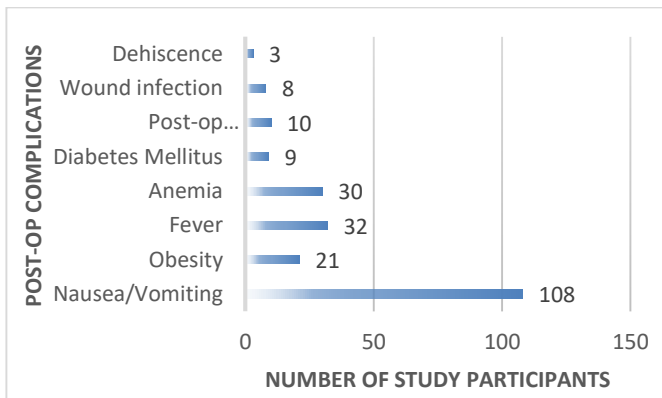


Figure II. Post-op complications in gynecological surgeries.

Discussion

Gynecological post-op complication presents a challenging scenario for a gynecologist after performing surgical procedures. Despite of a number of innovative surgical skills in the field, gynecologists still facing post-op complications because of the rising incidence of SSIs. Numerous internal and external factors affects wound healing process. The main contributing internal factors are DM and HTN etc. whereas the contributing external factors are wound infection, suturing material, suturing technique and post-op wound care.¹⁹ The findings of this study validated the immediate post-op gynecologic and obstetric complications that happens after the surgical procedures.

In our study, the mean hospitalization time was observed as 3.0 ± 1.0 days, which is inconsistent with the results of a study that had displayed mean hospitalization time as

10.79 ± 7.91 days due to incidence of main surgeries.⁴ Our investigation revealed minor complications here.

The results of our study further revealed the incidence of nausea and vomiting in 108 study participants, which makes a total of 72%. The results are consistent with the findings of another study, which showed a prevalence of nausea and vomiting as 73.6% following a C-section in spinal anesthesia.²⁰ The reason behind the higher prevalence of nausea and vomiting might be the higher levels of progesterone that results in the relaxation of the smooth muscles, an increase secretion of gastrin, GI tract reduced motility and a lower gastroesophageal sphincter tone which causes emetic sensation.²¹ Another research revealed the frequency of post-op vomiting and nausea relatively lower²² in comparison to the findings of other researchers in many regions of the world.²³⁻²⁶ including Europe, Northern US and Asia. The results are divergent with the findings of the above studies because of inadequate administration of opioids during the surgical procedures.

Postoperative wound infections have attracted significant scholarly attention. A study conducted in Nepal investigated the occurrence of postoperative wound infections and meticulously examined diverse risk factors that significantly contributed to the manifestation of wound infections in obstetric and gynecological surgical interventions.²⁷ This particular investigation documented an incidence rate of wound infections amounting to 5.87% cases. Notably, the study also delineated the duration of hospitalization, revealing that approximately 70% of the study participants exhibited a hospital stay ranging from 0 to 2 days, while the remaining 30% experienced prolonged stays spanning from 3 to 18 days. Remarkably, our own study's findings resonate with those aforementioned, as we similarly observed an 8% prevalence of wound infections among our study cohort.

Following a gynecological and obstetric surgeries, wound dehiscence may prolong the morbidity duration that results in an increase in hospitalization expenditure as well as the patient's anxiety level. These complications might be prevented by minimizing the risk factors which play an important role in wound dehiscence progression.²⁸ A research showed an incidence of wound dehiscence about 3.05% in study patients which required secondary suturing. The study reported the commonest co-morbidity that were associated with the wound dehiscence as DM and HTN. The study also demonstrated patient's prolonged

hospital stay who had developed wound dehiscence.²⁹ In our study, SSIs (wound dehiscence) was observed in only 3 (2.0%) patients whereas wound infection was monitored in 8 (5.33%) patients with co-morbidity of DM only in 9 patients. The results are in consistent with the findings of the above report.

In majority of gynecological and obstetric surgeries, post-op fever is commonly observed. In many cases, it remains physiological in nature yet, some cases require more thorough investigations as well.³⁰ In another study, the risk factors and incidence and for post-op flushed sickness following a LAVH (laparoscopic-assisted vaginal hysterectomy) was assessed in 199 female patients. The mean age was recorded 46±6 years, a mean total hospitalization time was recorded as 5±2 days, whereas mean post-op hospital stay of 3±2 days. Post-op pyrexia was reported in 31(15.6%) cases thus, reproducing modest incidence of flushed illness following laparoscopic-assisted vaginal hysterectomy.³¹ In our study, the mean age of the patients was recorded as 30.0±6.24 year whereas; mean post-op hospitalization time was recorded as 3.0±1.0 days. The results are consistent with the findings of the above research.

Conclusion

Our study concluded that post-op nausea and vomiting remained the most communal impediment in gynecological surgeries followed by fever, anemia, obesity, DM and gastritis subsequently. A poor rate of SSI (dehiscence) and wound infection was reported in the study participants. The study provides insights into the prevalence and types of complications associated with gynecological surgeries, which could be useful for improving preoperative and postoperative care strategies.

Acknowledgement: The authors are thankful to Iqra Jalil (Nescom, Islamabad) for helping in data analysis process.

References

- Erekson EA, Yip SO, Ciarleglio MM, Fried TR. Postoperative complications after gynecologic surgery. *Obstet Gynecol.* 2011 Oct;118(4):785-93.
- Pal DK, Wats V, Ghosh B. Urologic complications following obstetrics and gynecological surgery: Our experience in a tertiary care hospital. *Urol Ann.* 2016;8(1):26-30.
- Fuentes MN, Rodriguez-Oliver A, NaveiroRilo JC, Paredes AG, Aguilar Romero MT, Parra JF. Complications of laparoscopic gynecologic surgery. *JLS.* 2014;18(3):e2014.00058.
- Bahadur A, Mundhra R, Kashibhatla J, Chawla L, Ajmani M, Sharma S, et al. Intraoperative and Postoperative Complications in Gynaecological Surgery: A Retrospective Analysis. *Cureus.* 2021;13(5):e14885.
- World Health Organization 2016: Global guidelines on the prevention of surgical site infection. [Jun;2020]; Available: <http://www.who.int/gpsc/ssi-prevention-guidelines/en/> 2016
- Berrios-Torres SI, Umscheid CA, Bratzler DW, Leas B, Stone EC, Kelz RR, et al. Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection, 2017. *JAMA Surg.* 2017;152(8):784–791.
- Shikha SS, Latif T, Moshin M, Hossain MA, Akter H, Shamsi S, et al. Evaluation of Surgical Site Infection among Post Cesarean Patients in Mymensingh Medical College Hospital. *Mymensingh Med J.* 2018 Jul;27(3):480-486.
- Molla M, Temesgen K, Seyoum T, Melkamu M. Surgical site infection and associated factors among women underwent cesarean delivery in Debreabor General Hospital, Northwest Ethiopia: hospital based cross sectional study. *BMC Pregnancy Childbirth.* 2019;19(1):317.
- Gong SP, Guo HX, Zhou HZ, Chen L, Yu YH. Morbidity and risk factors for surgical site infection following cesarean section in Guangdong Province, China. *J ObstetGynaecol Res.* 2012;38(3):509-15.
- Zejnnullahu VA, Isjanovska R, Seifija Z, Zejnnullahu VA. Surgical site infections after cesarean sections at the University Clinical Center of Kosovo: rates, microbiological profile and risk factors. *BMC Infect Dis.* 2019 Aug 28;19(1):752.
- Amjad A, Imran A, Shahram N, Zakar R, Usman A, Zakar MZ, et al. Trends of caesarean section deliveries in Pakistan: secondary data analysis from Demographic and Health Surveys, 1990– 2018. *BMC Pregnancy Childbirth.* 2020;20:753.
- Mackeen AD, Khalifeh A, Fleisher J, Vogell A, Han C, Sendeci J, et al. Suture compared with staple skin closure after cesarean delivery: a randomized controlled trial. *Obstet Gynecol.* 2014;123(6):1169– 1175.
- Peleg D, Eberstark E, Warsof SL, Cohen N, Ben Shachar I. et al. Early wound dressing removal after scheduled cesarean delivery: A randomized controlled trial. *Am J Obstet Gynecol.* 2016;215(3):388.e1– 388.e5.
- Zuarez-Easton S, Zafran N, Garmi G, Salim R. Postcesarean wound infection: prevalence, impact, prevention, and management challenges. *Int J Womens Health.* 2017;9:81-88.
- deAraújo Madeira MZ, Trabasso P. Surgical site infections in women and their association with clinical conditions. *Rev Soc Bras Med Trop.* 2014;47(4):457–61.
- Kawakita T, Landy HJ. Surgical site infections after cesarean delivery: epidemiology, prevention and treatment. *Mater Health NeonatolPerinatol.* 2017;1(3):1–9.
- Adeli M, Razmjoo N, Tara F, Ebrahimzade S. Effect of early post cesarean feeding on gastrointestinal complications. *Nurs Midwifery Stud.* 2013;2(2):176-81. DOI: 10.5812/nms.10184.
- Foley A, Burgell R, Barrett JS, Gibson PR. Management Strategies for Abdominal Bloating and Distension. *Gastroenterol Hepatol (N Y).* 2014 Sep; 10(9): 561–571.
- Al Jama FE. Risk factors for wound infection after lower segment caesarean section. *Qatar Med J.* 2012;12(2):26–31.
- Jabalamel M, Honarmand A, Safavi M, Chitsaz M. Treatment of postoperative nausea and vomiting after spinal anesthesia for cesarean delivery: A randomized, double-blinded comparison of midazolam, ondansetron, and a combination. *Adv Biomed Res.* 2012;1:2.
- Klauser CK, Fox NS, Istwan N, Rhea D, Rebarber A, Desch C, et al. Treatment of severe nausea and vomiting of pregnancy with subcutaneous medications. *Am J Perinatol.* 2011; 28(9):715-21.
- Ugochukwu O, Adaobi A, Ewah R, Obioma O. Postoperative nausea and vomiting in a gynecological and obstetrical population in South Eastern Nigeria. *Pan Afr Med J.* 2010;7:6.

23. Harmon D, Ryan M, Kelly A, Bowen M. Acupressure and prevention of nausea and vomiting during and after spinal anaesthesia for caesarean section. *Br J Anaesth*. 2000 Apr;84(4):463–7.
24. Van den Bosch JE, Moons KG, Bonse GJ, Kalkman CJ. Does measurement of preoperative anxiety have added value for predicting postoperative nausea and vomiting? *AnesthAnalg*. 2005;100(5):1525-1532.
25. Mraovic B, Simurina T, Sonicki Z, Skitarelic N, Gyan TJ. The dose response of nitrous oxide used in postoperative nausea in patients undergoing gynecologic laparoscopic Surgery – A preliminary study. *AnesthAnalg*. 2008;107(3):818–23.
26. Choi DH, Ko SJ, Ahn HJ, Kim JA. A Korean predictive model for postoperative nausea and vomiting. *J Korean Med Sci*. 2005;20(5):811–815.
27. Suwal A, Shrivastava VR, Giri A. A prospective study of wound infections after laparotomy in obstetrics and gynaecology department. *Nepal Med Coll J*. 2012;14(4):267-70.
28. Narang R, Nandmer GK, Sapkal R. Factors affecting post operative wound gaping and their outcome in obstetrical and gynecological abdominal surgeries. *Int J ReprodContraceptObstetGynecol*. 2017;6(4):1530–1533.
29. Metgud MC, Kataria A, Nadipally SR, Patil K, et al. Incidence of Wound Dehiscence Following Obstetric and Gynecological Surgeries at a Tertiary Care Hospital: A Retrospective Study. *J South Asian FederObstGynae*. 2020;12(2):73–78.
30. Pile JC. Evaluating postoperative fever: a focused approach. *Cleve Clin J Med*. 2006 Mar;73Suppl 1:S62-6. DOI: 10.3949/ccjm.73.suppl_1.s62.
31. Wongpia I, Thinkhamrop J, Seejorn K, Buppasiri P, Luanratanakorn S, Temtanakitpaisan T, et al. Incidence of and risk factors for febrile morbidity after laparoscopic-assisted vaginal hysterectomy. *Int J Womens Health*. 2014;6:385-388.