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An Assessment of Outcomes of Obstetrics and Gynecology Surgery during COVID-19 Lockdown at a Community Hospital of Far-Western Nepal

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Abstract

Introduction: Preoperative strategies have been changing due to the COVID-19 pandemic to prevent the risk of postoperative complications and transmission of infection. This study was aimed to assess the outcome of obstetrics' and gynecology surgery and the risk of transmission by implementing COVID-19 testing criteria and surgical strategy.

Materials and Methods: This was a descriptive cross-sectional study (retrospective chart review) conducted at the far western region at one of the community hospital (Soojung hospital) in Doti, NEPAL, during COVID-19 lockdown from September 2020 to July 2021. All patients who underwent obstetrics' and gynecology surgeries were included. High risk and suspected patient were tested for COVID-19 preoperatively. Surgery was performed in operating room with full protective gear. Low risk patients were not tested for COVID-19 preoperatively and performed surgery in regular operative room. Data from patients' case-sheets were analyzed for age, comorbidities, hospital stay, RT-PCR results, surgeries and post-operative complications.

Results: The patients were 17 to 64 years old with mean age of 30.88 years (SD: 9.79 years). Of the total 98 surgeries performed, 73 (74.5%) were caesarians (emergency: 66; 67.3%, and elective: 7; 7.1%), 21 (21.4%), total abdominal hysterectomies and 4 (4.1%), vaginal hysterectomies. These patients stayed in the hospital from 1 day to 7 days long with the mean hospital stay being 3.79 days (SD: 2.13 days). Preoperatively, there were 3 (2.94%) patients who tested positive for COVID-19, but were negative at the time of discharge without any complication. No any severe complication and mortality was seen during the surgeries (72.5%; no complication; 11.2% bleeding; 6.1% infection).

Conclusion: Among all gynecology and obstetrics' surgeries, there was no any severe postoperative complication, mortality and transmission of COVID-19 to the patients.

Keywords: COVID-19; Caesarian; Total abdominal hysterectomy; Vaginal hysterectomy; Complications

Introduction

COVID-19 pandemic, a recent worldwide menace to the humanity, has been continuously posing staid challenges to almost every domain of the health care, ranging from managing the primary diseases as well as the associated comorbidities. As might be expected, the highly infectious characteristic of the causative virus, i.e., severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has severely interrupted the surgeries, globally. The unescapable obligation of following exceptional and detailed precautionary measures to avert transmission of this disease to the patients and the surgical team, and the possibility of post-operative morbidity and mortality in vulnerable asymptomatic patients have made the circumstances even more perplexing. A proper assessment of patients pre-operatively followed by screening is, therefore, a must before a comprehensibly followed operative protocol.¹

Despite following the best practices in pre-operative screening and intra-operative adherence to standard protocols, an infection with COVID-19 has been reported as a significant triggering factor for post-operative mortality and morbidity. This has put forth remarkable encumbrance on the obstetric and gynecologic surgery and has resulted in significant changes in safety protocols to minimize the risk of transmission and prevent undue complications, post-operatively.²

Studies conducted globally on the outcome of gynecological surgeries during the COVID-19 pandemic have shown various results. To this end, this study was aimed to assess the outcome of obstetrics' and gynecology surgery and the risk of transmission by implementing COVID-19 testing criteria and surgical strategy.

Materials and Methods

It was an observational (descriptive) cross-sectional study conducted at the Department of Obstetrics and Gynaecology of Soojung community hospital located in Doti, a Far-Western Region in Nepal. The Soojung Hospital is a secondary care center that caters to the healthcare needs of a significant proportion of

population in the region, including the obstetric and gynecologic services. Moreover, during the COVID-19 pandemic, the hospital also served as a key center that housed and successfully managed many infected patients. As such, the study population of the study included the patients who were admitted in the department of Obstetrics and Gynaecology of the hospital and underwent the surgical treatments during the period of 11 months (from September 2020 to July 2021) during the COVID-19 pandemic. All the patients who underwent the obstetric and gynecologic surgeries were included employing the total enumeration technique of the non-probability sampling method.

Prior to the surgery, high risk and suspected patients were tested for COVID-19. In these group of patients, surgery was performed in the operating room with full protective gear with strict adherence to the universal precautions and standard guidelines set for these patients during the pandemic. Real-Time Polymerase Chain Reaction of the naso- or oro-pharyngeal swab specimen, a gold standard test for the diagnosis of COVID-19, was employed for the same purpose. Low risk patients, on the other hand, were not tested for COVID-19 preoperatively and were operated in regular operative room, albeit with strict observance to the prescribed safety guidelines. The detailed data of the patients were retrieved from the hospital records. From the patients' case-sheets, particulars of age, comorbidities, hospital stay, RT-PCR results, surgeries and post-operative complications were collected in a separate proforma and analysed.

After retrieval of the data from the hospital records, initial entry was done in the Microsoft Excel (Microsoft Office 2007). After a thorough cleaning and preliminary data management, final entry and analysis was performed in the Statistical Package for Social Sciences (SPSS) version 16.0. The categorical data were described using frequency and percentage and were illustrated using appropriate charts and diagrams, and the continuous data were described using mean with standard deviation.

Results

The hospital records of a total of 98 patients who underwent obstetric and gynecological surgeries at the study site were scrutinized for analysis. The patients ranged in age between 17–64 years with mean age of 30.88 years (SD: 3.88 years). Of the total 98 surgeries performed, 73 (74.5%) were caesarians (emergency: 66; 67.3%, and elective: 7; 7.1%), 21 (21.4%), total abdominal hysterectomies and 4 (4.1%), vaginal hysterectomies. (Table 1) The mean age of the patients who underwent elective cesarean surgery was 25.86 years (SD: 3.76 years); emergency cesarean surgery, 27.15 years (SD: 6.25 years), total abdominal hysterectomy, 39.38 years (SD: 8.11 years), and vaginal hysterectomy, 56.50 years (SD: 5.97 years).

These patients stayed in the hospital from 1 day to 7 days long with the mean length of hospital-stay being 3.79 days (SD: 2.13 days). Likewise, the mean length of hospital-stay for patients who underwent elective cesarean surgery was 4.00 days (SD: 2.38 days), emergency cesarean, 3.79 days (SD: 2.16 days), total abdominal hysterectomy, 3.76 days (SD: 2.17 days), and vaginal hysterectomy, 3.50 days (SD: 1.73 days).

Preoperatively, there were 3 (2.94%) patients who tested positive for COVID-19, but were negative at the time of discharge without any complication. No any severe complication and mortality was seen during the surgeries (72.5%; no complication; 11.2% bleeding; 6.1% infection). (Table 1)

Table 1: Distribution of the study participants based on the types of surgery they underwent and the post-operative complications

	Frequency	Percentage (%)
Type of Surgery		
1. Caesarian	73	74.5%
a. Elective	7	7.1%
b. Emergency	66	67.3%
2. Total Abdominal Hysterectomy (TAH)	21	21.4%
3. Vaginal Hysterectomy (VH)	4	4.1%
Post-operative Complications		
1. No Complication	71	72.4%
2. Bleeding	11	11.2%
3. Infection	6	6.1%
4. Others	10	10.2%

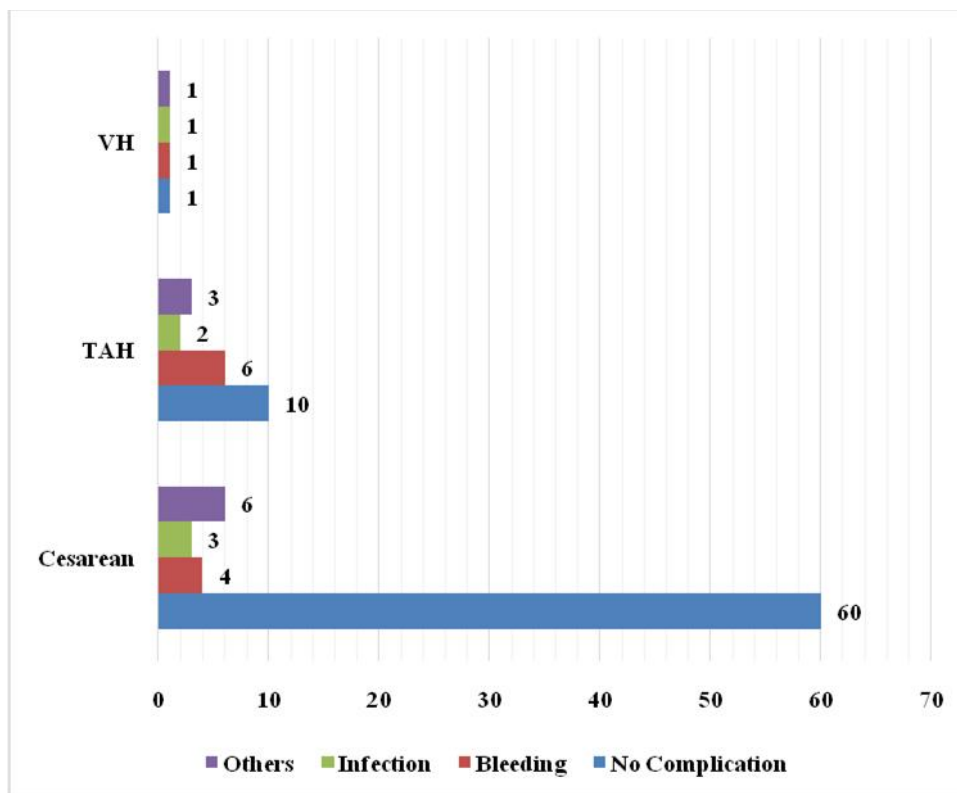


Figure 1: Clustered bar diagram demonstrating the post-operative complications for each type of surgery the participant underwent

As illustrated in the figure 1, proportions of cases without complications was the highest in caesarian surgery, followed by total abdominal hysterectomy (TAH) and vaginal hysterectomy. Likewise, the prevalence rates of post-operative bleeding were the highest in total abdominal hysterectomy and vaginal hysterectomy, alike.

Discussion

The obvious drawbacks of the present study stem from key aspects of its study design. In a retrospective chart review such as this, it is not possible to take into account all the variables that can influence the outcome of interest. Moreover, the sample size, as taken into account in this study, is not sufficient to fully explain the findings in an ideal scenario of the disease epidemiology. Despite the drawbacks, the findings from the study indubitably have pointed towards some positive direction. The success of the pre-operative strategies and the testing

criteria, as employed by the hospital prior to the surgical interventions in the study and yielding effectual upshots in terms of risk of transmission, has paved a pathway for practitioners in other hospitals to consider these approaches. Moreover, further studies with improved study designs can be planned based on the findings from the present study.

Conclusion

In the present study, of the total gynecological and obstetric surgeries, cesarean surgery constituted the major types, followed by total abdominal hysterectomy. Moreover, there were no any severe postoperative complication, mortality and transmission of COVID-19 to the patients. Further studies with improvised design are clearly warranted to elucidate more associations.

Acknowledgement

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Declaration of Conflict of Interest

The author declares no conflict of interest.

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