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Impact of the COVID-19 Pandemic on Gynecologic Oncology Surgical Treatment Modifications in Tertiary Cancer Centers of Bangladesh

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Abstract

Introduction: Global healthcare has changed dramatically as a result of the COVID-19 epidemic. The effect of these modifications on the treatment of gynecological cancer is yet largely unknown. However, due to the panic created among the patients and the adverse situation prevailing during the pandemic, many patients refrained from taking the treatment and in many cases, the surgical treatment had to be modified. This study aimed to evaluate the impact of the COVID-19 pandemic on patients with gynecological malignancies undergoing different oncology treatments.

Methods: This prospective study was conducted in the Department of Gynaecological Oncology, Bangabandhu Sheikh Mujib Medical University and National Institute of Cancer Research & Hospital, Dhaka, Bangladesh from March 2020 to December 2022. Our study included 143 patients with gynaecological malignancies scheduled to receive surgical treatment.

Result: The study showed that during the pandemic period, a sizable proportion of patients 43.4% scheduled for surgical treatment lost to follow-up leaving 56.6% to receive treatment with some modifications from the planned treatment. The differences between the scheduled and the observed treatment in cases of three major gynaecological malignancies (endometrial, cervical, and ovarian cancers) were not statistically significant ($p = 0.997$, $p = 0.986$, and $p = 0.999$ respectively).

Conclusion: The study concluded that surgical volume for gynaecological cancer dropped considerably, and during the pandemic to avoid surgery, radiotherapy was done. Over half of the patients received the care. However, the pattern of care they received differed in many cases from what was originally planned.

Keywords: COVID-19; Gynecologic oncology; Surgical treatment; Modifications.

Introduction

The primary focus of healthcare since the beginning of the COVID-19 pandemic has shifted dramatically to treating extremely sick COVID-19 patients. As a result, oncological surgeries have been postponed globally due to a shortage of resources [1]. Furthermore, general practitioner (GP) offices in the Netherlands became less accessible to symptomatic patients, and population screening initiatives, such as the cervical cancer screening program, were stopped. This may have contributed to a delayed cancer diagnosis in addition to the delayed operation. Three connected New York

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City hospitals reported that 39% of their gynecological cancer patients had a COVID-19-related treatment modification, such as a delay, change, or cancellation, during the first two months of the pandemic, suggesting that the pandemic had a significant impact on these patients. Moreover, two-thirds of the patients scheduled for surgery experienced modification in their surgical plan [2]. It is unclear whether alterations in treatments or surgical plans due to the COVID-19 pandemic have led to suboptimal cancer treatments. Amongst the most impacted groups during the pandemic were women with gynecologic cancers, and patients pleaded for more extensive delivery of high-standard care, especially during emergencies [3]. Delivering surgical care to patients with more advanced or relapsed disease, where surgery can prolong life but not cure, has been made more difficult by the pandemic. Surgeries were being delayed or replaced by systemic or palliative care options that had previously been associated with poorer and less favorable outcomes [4]. According to modeling studies conducted in Boston, USA, and Toronto, Canada, a delay in oncologic surgery might have an impact on as many as 13,000 people in the first three months of the pandemic. Delays in cancer procedures that last more than six weeks can also have an impact on the patients' long-term oncologic outcomes [5]. Oncology patients may also be more likely to get moderate or severe COVID-19 infection if they were exposed in a hospital setting. Because of their advanced age and concomitant conditions such as diabetes, cardiovascular disease, and pulmonary illness. Patients with type 2, 3, or 4 cancer are typically immune-compromised as a result of chemotherapy, which could further delay surgery and access to chemotherapy, according to the Eastern Cooperative Oncology Group (ECOG) [6, 7].

During the pandemic, preoperative risk assessments may have also affected the surgical treatment provided to patients with gynecological cancers. The risk of pulmonary problems and postoperative death was higher in patients who developed COVID-19 during surgery. Especially oncological patients who were older than 70 [8]. A significant proportion of patients with gynecological malignancies were elderly. Therefore, non-surgical therapy options may now be preferred for gynecological cancers. It is questionable if changes in treatment protocols, such as increasing the use of neoadjuvant chemotherapy (NACT) for advanced-stage ovarian cancer, actually took place during the epidemic. In addition to patient risks, the pandemic-induced risk for medical personnel may have had an impact on the surgical treatment of patients with gynecological cancers. Change in surgical approach (open vs. minimally invasive techniques) might have resulted from the hypothesized link between aerosol-generating operations. There is also chance of elevated SARS-CoV-2 infection risks for hospital staff due to laparoscopy surgery [9]. The COVID-19 pandemic may also have had an impact on the number of gynecological malignancy patients who underwent surgery. According to recent single-center research from the United Kingdom, maintaining surgical volume during the pandemic year was possible. However, given that many more postoperative problems occurred significantly higher death rates were noted. This might have come at the expense of the safety of perioperative healthcare [10]. Gynecologic oncologists in Canada were unable to perform oncologic surgery within the frequently advised treatment schedules. Following evidence-based practice provincial and national advice to reduce operating room capacities and restrict intensive care (ICU) admissions.[6,11] Gynecologic oncologists revised the recommended course of treatment and placed a priority on identifying which patients need urgent surgery, where they have opted to choose alternative treatments when there are resources available. 6 Gynecologic oncology guidelines from Canada and other regions have prioritized procedures, resulting in several surgeries being postponed or canceled [6, 11, 12]. Between March 15 and October 25, 2020, surgical oncology volumes in the province of Ontario decreased overall by 19% from the same period the year before (March 17, 2019 – Oct 17, 2019). In the province of Ontario, gynecologic malignancies surgeries fell by 8% from the previous year. A national register was created in the US for surgical procedures carried out in university and private hospitals across 21 states. Between March 16 and May 31, 2020, there was a 57% weekly decline in case volume, according to registered statistics, compared to the same weeks in 2019. Additionally, there was considerable variation between institutions, with median weekly decreases per institution ranging from 33% to 72% [13]. Although few studies have been published on the impact of the COVID-19 pandemic on gynecological cancer healthcare [14-16]. They were based on small sample sizes, and there was a lack of population-based data with adequate power. Therefore, the present study was undertaken to evaluate the impact of the COVID-19 pandemic on patients with gynecological malignancies undergoing different oncology treatments, concerning the surgical volume, perioperative care processes, and outcomes at the National Institute of Cancer Research & Hospital and Dept. of Gynaecological Oncology of Bangabandhu Sheikh Mujib Medical University.

Methodology & Materials

This prospective study was conducted in the Department of Gynaecological Oncology, Bangabandhu Sheikh Mujib Medical University and National Institute of Cancer Research & Hospital (NICRH), Dhaka, Bangladesh from March 2020 to December 2022. Our study included 143 patients with gynecological malignancies (ovarian, vulvar, vaginal, and endometrial cervical cancer) who attended the gynecologic oncology outpatient and inpatient departments with the intent of surgical intervention. These are the following criteria to be eligible for enrollment as our study participants: a) Patients

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aged 10 years to 80 years; b)Patients with a diagnosis of gynecologic malignancies (ovarian, endometrial, uterine, cervical, vulvar, vaginal); c) Patients who were the candidates of surgical intervention during peri COVID-19 period; d) Patients who were willing to participate were included in the study And a) Patients with nonsurgical intent or management with primary chemotherapy or radiotherapy; b) Patients with recurrent gynecologic malignancy; c) Patients with previous surgery; d) Patients with any history of acute illness (e.g., renal or pancreatic diseases, ischemic heart disease, asthma, COPD etc.) were excluded from our study.

Data collection

Data were collected in a retrospective fashion using both institutions' individual electronic and manual medical records. Patients were identified from the Gynecologic Oncology Inpatients & Outpatients Department and Cancer Conference Tumour Board. Data were collected on variables of interest using a semi-structured questionnaire. The decision-to-treat date was defined as a time when the surgical decision was made and documented. The date of the treatment received during the pandemic was recorded and subtracted from the decision-to-treat date. The time to treatment was subtracted from the recommended wait times. Treatment delay was calculated by subtracting the time from decision-to-treat to the respective institutional recommended wait time based on the priority status as defined above. We also noted down the treatment modifications, such as the Neoadjuvant chemotherapy (NACT) instead of Primary cytoreductive surgery (PCS) in case of early ovarian cancer with additional cycles for patients receiving NACT before interval cytoreductive surgery. In the case of low-grade endometrial cancer instead of surgery treatment was given with hormonal treatment, different chemotherapy regimens, and different systemic agents according to the institutional standard of care protocol.

Statistical Analysis

All data were recorded systematically in preformed data collection form. Quantitative data was expressed as mean and standard deviation. Qualitative data was expressed as frequency distribution and percentage. The test statistics used to analyze the data were descriptive statistics and the McNemar Chi-squared ($\chi 2$) Probability Test. While the McNemar Chi-squared ($\chi 2$) Test was employed to analyze whether the treatment modifications were statistically significant, the Paired sample t-test was used to analyze whether the treatment delay due to COVID-19 was significant. A p-value <0.05 was considered as significant. Statistical analysis was performed by using SPSS 23 (Statistical Package for Social Sciences) for Windows version 10. The study was approved by the Ethical Review Committee of Bangabandhu Sheikh Mujib Medical University.

Results

Table 1: Socio-demographic characteristics of the study participants (n=143)

Socio-demographic characteristics	Frequency	Percentage
Age (years)		
≤ 20	4	2.8
21-30	21	14.7
31-40	29	20.3
41-50	43	30.1
> 50	46	32.2
Mean age (years)	45.4±13.3	
Educational status		
Illiterate	21	14.7
Primary	57	39.9
SSC	48	33.6
HSC	15	10.5
Graduate	2	1.4
Occupational status		
Housewife	138	96.5
Service holder	3	2.1
Student	2	1.4
Marital status		
Married	141	98.6
Unmarried	2	1.4
Socio-economic status		
Poor	24	16.8
Lower middle class	114	79.7
Upper middle class	5	3.5

Table 1 presents the sociodemographic characteristics of the gynecologic oncology patients included in the study. Elderly patients (50 or > 50 years) comprised nearly one-third (32.2%) of the sample followed by 30.1% were 41-50 years, 20.3% & 14.7% were 31-40 and 21-30 years respectively. The mean age of the patients was 45.4±13.3 years and the ranges were 17 to 80 years old. The majority (40%) of patients completed primary education, and still 14.7% of patients were illiterate. About 15% of the patients were illiterate. In terms of occupation, the majority of the patients were housewives (96.5%). Almost 80% of patients belonged to lower-middle-class families.

Table 2 shows that the majority (97.2%) of the patients were multipara. About half (47.6%) of them used oral contraceptives; of them, 86.8% used them for > 5 years and a few (4.4%) for > 10 years.

In Table 3 we found that cervical cancer was the predominant type of cancer (41.3%) followed by ovarian cancer (39.2%), endometrial cancer (13.3%), and vulva

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Table 2: Obstetric and contraceptive history of the study participants (n=143)

Obstetric and contraceptive history	Frequency	Percentage
Parity		
Nullipara	4	2.8
Multipara	139	97.2
Oral contraceptive (OCP) use	68	47.6
Duration of OCP (n = 68)		
< 5 years	6	8.8
> 5 years	59	86.8
> 10 years	3	4.4

Table 3: Diagnosis of the disease of the study participants (n=143)

Diagnosis of the disease	Frequency	Percentage
Endometrial Cancer	19	13.3
Cervical Cancer	59	41.3
Ovarian Cancer	56	39.1
Vulva & Vaginal Cancer	6	4.2
GTN	3	2.1

and vaginal cancer (4.2%). A few patients had gestational trophoblastic neoplasia (GTN).

Table 4 shows that out of the 19 endometrial cancers, 14(73.7%) were prescribed for hormonal therapy and the rest 5(26.3%) were scheduled for surgical management. In the case of cervical cancer, 35(59.3%) were scheduled for surgical management and 24(40.7%) were recommended to receive radiotherapy. Over three-quarters (78.6%) of ovarian cancer patients were suggested to have surgical management, 9(16.1%) were scheduled to have chemotherapy, and 3(5.3%)

Table 4: Scheduled treatment for different oncologic cancers (n=143)

Scheduled Rx	Frequency	Percentage
Endometrial Cancer (n =19)		
Surgical Management	5	26.3
Hormonal Treatment	14	73.7
Cervical Cancer (n = 59)		
Surgical Management	35	59.3
Radiotherapy	24	40.7
Ovarian Cancer (n = 56)		
Surgical Management	44	78.6
Chemotherapy	9	16.1
Hormonal Treatment	3	5.3
Vulva and vaginal cancer (n = 6)		
Surgical Management	4	66.7
Radiotherapy	2	33.3
GTN (n = 3)		
Surgical Management	3	100

had hormonal therapy. Two-thirds (66.7%) of the vulva and vaginal cancer patients were scheduled to receive surgical management and one-third (33.3%) to receive radiotherapy. All the gestational trophoblastic neoplasia (GTN) were scheduled to receive surgical management.

Table 5 shows that out of 19 endometrial cancers, 16(84.2%) received treatment and 3(15.8%) did not receive treatment. In the case of cervical cancer, a significant proportion (61%) of patients dropped out leaving only 23(39%) out of 59 cases to receive treatment; of them about half (47.8%) received surgical management, and the other half (52.2%) have had radiotherapy. Over 30% of ovarian cancer patients dropped out, leaving 39(69.6%) to receive treatment. Of the 39 cases, 31(79.5%) received scheduled surgical treatment, 8(20.5%) took chemotherapy, and none received hormonal therapy. Out of 6 patients in the Vulva & Vaginal Cancer group, 3(50%) lost to attrition, and 3(50%) received treatment [(1(33.3%) surgical treatment and 2(66.7%) radiotherapy]. None of the 3 cases of gestational trophoblastic neoplasia (GTN) attended to receive treatment. Thus from 143 patients scheduled for treatment, 81(56.6%) received treatment and the rest 62(43.4%) dropped out.

Table 5: Scheduled and modified treatment for different oncologic cancers

Cancer types	Scheduled for surgical treatment	Treatment received	Dropped out
Endometrial Cancer	19	16(84.2)	3(15.8)
Surgical Management	5(26.3)	1(6.2)	
Hormonal Treatment	14(73.7)	15(93.8)	
Cervical Cancer	59	23(39.0)	36(61.0)
Surgical Management	35(59.3)	11(47.8)	
Radiotherapy	24(40.7)	12(52.2)	
Ovarian Cancer	56	39(69.6)	17(30.4)
Surgical Management	44(78.5)	31(79.5)	
Chemotherapy	9(16.1)	8(20.5)	
Hormonal treatment	3(5.4)	0(0.0)	
Vulva & Vaginal Cancer	6	3(50.0)	3(50.0)
Surgical management	4(66.7)	1(33.3)	
Radiotherapy	2(33.3)	2(66.7)	
GTN	3	0(0.0)	3(100.0)

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The bar chart shows that among 16 endometrial cancer patients who received treatment, 2(12.5%) were scheduled for surgical treatment; one (6.2%) of them received surgical treatment and another 1(6.2%) received hormonal therapy. The difference between the scheduled and the observed treatment in the case of endometrial cancer was not statistically significant as revealed by the McNemar Chi-squared (χ2) Test (p = 0.997) (Figure 1).

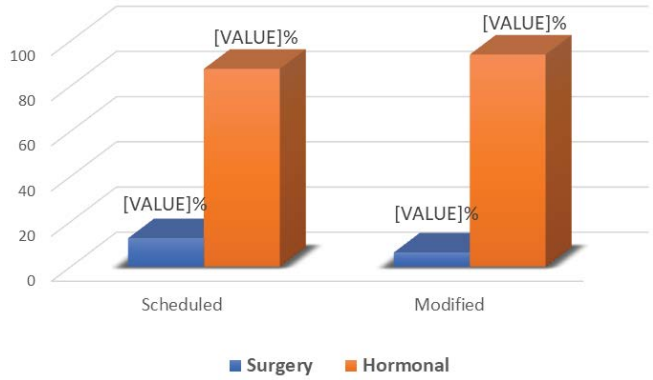

Figure 1: Comparison between scheduled and observed treatment in the case of endometrial cancer

Figure 2 shows that out of 23 patients with cervical cancer who received treatment, 10(43.5%) were scheduled to be treated with surgery and 13(56.5%) with radiotherapy. Observed or modified treatment shows that 11(47.8%) received surgical treatment and 12(52.2%) received radiotherapy. The difference between the scheduled and the observed treatment in the case of cervical cancer was not statistically significant (p = 0.986).

Figure 3 shows that there was no difference between the scheduled and the observed treatment in the case of ovarian cancer (p = 0.999).

Data were analyzed using the McNemar Chi-square (χ2) Test; figures in the parenthesis denote the corresponding %.

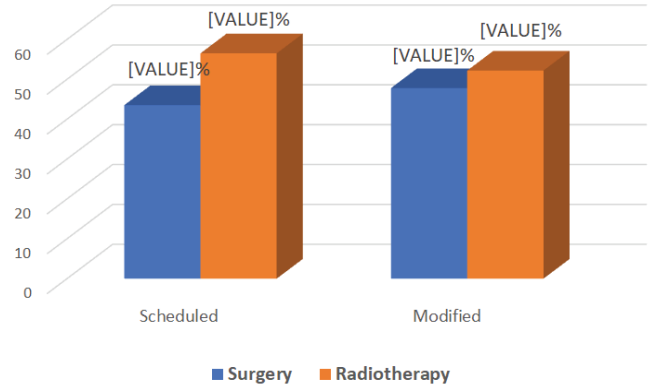

Figure 2: Comparison between scheduled and observed treatment in the case of cervical cancer

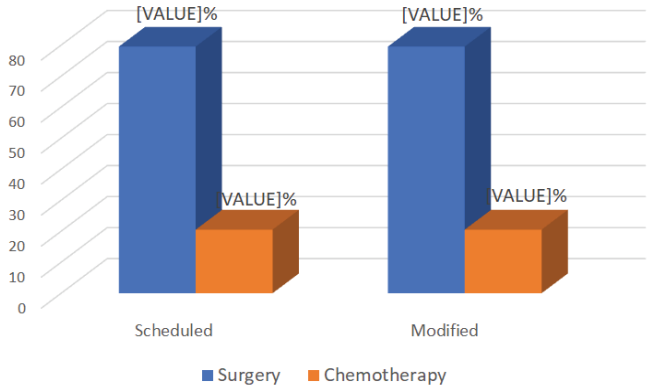

Figure 3: Comparison between scheduled and observed treatment in the case of ovarian cancer

Table 6: Difference in the gap between diagnosis and treatment before and during COVID-19

The gap between diagnosis and treatment	Group		p-value
	Before Pandemic	During Pandemic	
	(n = 81)	(n = 81)	
Weeks	49(60.5)	22(27.2)	0.006
Months	32(39.5)	59(72.8)	

Data were analyzed using the McNemar Chi-square (χ2) Test; figures in the parenthesis denote the corresponding %.

The analysis of the gap between diagnosis and treatment before and during the COVID-19 pandemic revealed that over 60% of the patients were treated within weeks gap (within 4 weeks) of the diagnosis of the disease, while during the pandemic only 27.2% of the patients received treatment within weeks gap and the rest (72.8%) required months gap (1 month or more) to be treated since the diagnosis of the disease (p = 0.006).

Discussion

Concerns have been raised across the globe on how the COVID-19 pandemic would have affected the surgical treatment of patients with gynecological cancer. Studies regarding the issue are limited and there is only one multi-center impact study, recently released. The current study aimed to know what alterations in the treatment schedule were made due to the pandemic as well as to know the delay in time to first treatment (TTFT) since the disease was first diagnosed. The current study showed that during the pandemic year, a sizable proportion of patients (43.4%) scheduled for surgical treatment dropped out (lost to follow-up) and the rest 81(56.6%) received treatment with some modifications from the scheduled treatment. A recently published multicenter Dutch study [16] reported that during the pandemic year, surgical volume for cervical cancer dropped considerably,

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Time to first treatment (TTFT) for all four tumor types was noticeably shorter, and the treatment plan for advanced-stage ovarian cancer showed an increase in NACT before surgery. Additionally, the volume of cervical cancer surgeries decreased noticeably during the pandemic year. Moreover, the surgical approach for endometrial cancer in its early stages changed to more minimally invasive surgery (MIS). During the first wave of the pandemic and the start of the interim period, a decline in surgical procedures (by 17.2%) for gynecologic oncology care was noted in Dutch hospitals. From March 16th, 2020 (the start of the first wave) through July 1st, 2020 (the middle of the interim period), the national cervical cancer screening program in the Netherlands was halted. This could have accounted for the decline in cervical cancer surgical operations during this time, especially when coupled with the decreased accessibility to GPs. The switch from surgical to non-surgical treatments, such as chemoradiation, was a potential explanation for the lower surgical volume for cervical cancer. It was alarming that the volume of cervical cancer surgeries had declined, which might have worsened the FIGO stage towards advanced-stage cervical cancers with an ultimate increase in morbidity and mortality for young women [16].

In addition to the well-established risk factor of prolonged hospital stay, Fotopoulou et al showed that low COVID-19 burden areas were associated with significantly higher rates of increased hospitalization (>14 days) [17]. It is possible that the healthcare systems that were least affected by the pandemic continued to operate for complex patients with a high disease burden, who in turn required a longer hospital stay. The available evidence showed some variances in the impact of COVID-19, even though published recommendations highlighted predicted delays in the delivery of care for gynecologic cancer. According to Bruce et al., for instance, there was a decline in the number of referrals to gynecologic oncology in the early phases of the pandemic, but there was no change in the duration of examination and the beginning of medical treatment [18]. In contrast, several surveys and retrospective cohort studies have described delays in consultations and treatments [19-22]. Concerns have been raised regarding how the COVID-19 pandemic may affect patients with gynecological cancer who require surgery throughout the world. Since no multi-center impact studies have been released yet, the impact's magnitude is unknown. The objective of this study was to evaluate the pandemic's effects on multi-center surgical care for patients with gynecological cancer. In the pandemic year, the number of cervical cancer surgeries decreased significantly, TTFT for all four tumor types was significantly shorter, and the treatment plan for advanced-stage ovarian cancer included an increase in NAC before surgery. These findings are reported in the current study. Besides, the surgical strategy for early-stage endometrial cancer shifted to increased minimally invasive surgeries (MIS). The safety of perioperative care for all gynecological cancers was maintained because there were no significant variations in complex course rates or 30-day mortality, while the length of the hospital stay (LOHS) was reduced or remained constant. The surgical volume for gynecological malignancies increased during the pre-pandemic period [1]. This increase could be explained by gynecologists working ahead and operating on oncological patients more quickly.

Increasing MIS at the expense of open surgery became the new surgical strategy for early-stage endometrial cancer, but patient and tumor characteristics remained the same in both cohorts (2018–2019 vs. 2020). The number of MIS was unaffected by the purported link between aerosol-generating operations and higher chances of SARS-CoV-2 infection for hospital staff.1 This is a comforting outcome because other research has confirmed that there is no evidence to substantiate the suggested association [23, 24]. The reduced admittance time for patients undergoing MIS could have influenced the surgical strategy. There is no evidence that the number of gynecological oncologists practicing MIS changed during the study period. The sort of surgery used for vulvar cancer varied greatly, with less radical vulvectomies and more extensive local excisions. This considerable disparity was most likely caused by the ambiguous terminology employed in the 'Dutch Gynecological Oncology Audit' (DGOA) registry: registrations of radical vulvectomies and extensive local excisions could reflect equivalent operations for vulva cancer. Therefore, whether the amount of high-complex vulvar cancer procedures decreased in 2020 is unknown. 1 Focusing on early postoperative results, the length of the hospital stay (LOHS) for vulvar and endometrial cancer surgeries was much shorter in 2020 than in 2018-2019. Patients were likely discharged more promptly after surgical procedures to free up capacity. Further examination of the original length of hospital stays and readmissions could provide insight into whether healthcare expenditures could be lowered if these patients were discharged soon [1]. In contrast to the findings of Leung et al., the safety of perioperative care was maintained for all four malignancies, as no significant variations in the year of surgery occurred for the difficult course and 30-day mortality [25]. They showed that maintaining the surgical volume was feasible during the pandemic. However, significantly more postoperative complications occurred, and higher mortality rates were observed [25]. During the period of the COVID-19 pandemic, a significant proportion of patients were lost to attrition. Of the remaining patients, a sizable bulk received NACT, chemo, and radiotherapy instead of surgical treatment. The reasons that could explain this treatment modification are more NACT administration might have resulted from preoperative risk assessments, as operating on these patients during periods of low SARS-CoV-2 infection rates would have reduced complications and

mortality [2]. Secondly, multi-disciplinary teams could have decided to administer NACT more frequently to postpone highly complex surgeries, using up space in the ICU and the operating room.

Limitations of the study

Firstly, no data on the SARS-CoV-2-infection status of the patients were analyzed. However, this study aimed to assess the overall impact of the pandemic on surgical patients with gynecological malignancies, not solely the impact on patients infected with the SARS-CoV-2 virus. The second limitation was that the study did not analyze the outcome of the modified treatment and the treatment delays that were inevitable and as such we could not compare the outcome with that resulted in the pre-pandemic era before 2020. The findings of the present study differ from other studies conducted abroad because of international differences in COVID-19-related hospital admission rates and ICU bed capacity.

Conclusion and Recommendations

The current study's objectives were to determine the changes made to the treatment plan as a result of the pandemic and the length of time since the disease's initial diagnosis (TTFT). The COVID-19 pandemic impacted the surgical care for patients with gynecological malignancies in Bangladesh. The surgical volume for cervical cancer dropped considerably, possibly due to the treatment shift to non-surgical alternatives. It appears from the study, that during the pandemic year, a considerable number of patients who were scheduled for surgical treatment failed to attend the hospital to receive their scheduled treatment. Over half of the patients received the care. However, the pattern of care they received differed in many cases from what was originally planned. The time to first treatment (TTFT) since the established diagnosis of a malignancy was significantly prolonged, which might have impacted the overall outcome of the patients.

So further study with a prospective and longitudinal study design including a larger sample size needs to be done to validate the findings of our study.

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Conflict of interest: None declared

Ethical approval

The study was approved by the Institutional Ethics Committee

References

1. Algera MD, Van Driel WJ, Slangen BF, et al. Impact of the COVID-19 pandemic on patients with gynecological malignancies undergoing surgery: A Dutch population-based study using data from the 'Dutch Gynecological Oncology Audit'. Gynecologic Oncology 165 (2022): 330-338.
2. Frey MK, Fowlkes RK, Badiner NM, et al. Gynecologic oncology care during the COVID-19 pandemic at three affiliated New York City hospitals. Gynecologic oncology 159 (2020): 470-475.
3. Gultekin M, Ak S, Ayhan A, et al. Perspectives, fears and expectations of patients with gynaecological cancers during the COVID-19 pandemic: a Pan-European study of the European Network of Gynaecological Cancer Advocacy Groups (ENGAGe). Cancer Med 10 (2021): 208-219.
4. Hanna TP, King WD, Thibodeau S, et al. Mortality due to cancer treatment delay: systematic review and meta-analysis. BMJ 371 (2020): m4087.
5. Finley C, Prashad A, Camuso N, et al. Lifesaving Cancer Surgeries Need to Be Managed Appropriately during the COVID-19 Pandemic (2020).
6. Goc position statement for the COVID-19 pandemic situation treatment and management for women with gynecologic cancer (2020).
7. Wang H, Zhang L. Risk of COVID-19 for patients with cancer. Lancet Oncol 21 (2020): e181.
8. Nepogodiev D, Bhangu A, Glasbey JC, et al. Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: an international cohort study. Lancet 396 (2020): 27-38.
9. El Boghdady M, Ewalds-Kvist BM. Laparoscopic Surgery and the debate on its safety during COVID-19 pandemic: A systematic review of recommendations. Surgeon no (2020).
10. Leung E, Pervaiz Z, Jack L-Z, et al. Maintaining surgical care delivery during the COVID-19 pandemic: a comparative cohort study at a tertiary gynecological cancer center. Gynecol Oncol 160 (2020): 649-654.
11. Ontario CC. Target Wait Times for Cancer Surgery in Ontario. A quality improvement collaboration of the Provincial Surgical Oncology Program, the Surgical Access to Care and Wait Times Subcommittee and the Program in Evidence-based Care (2006).
12. Surgical Considerations for Gynecologic Oncologists During the COVID-19 Pandemic (2020).
13. Pirracchio R, Mavrothalassitis O, Mathis M, et al. Response of US hospitals to elective surgical cases in the COVID-19 pandemic, Br J Anaesth 126 (2021): 46-48.
14. Bogani G, Apolone G, Ditto A, et al. Impact of COVID-19 in gynecologic oncology: a Nationwide Italian Survey of the SIGO and MITO groups. J Gynecol Oncol 31 (2020): e92.

Begum SA, et al., J Cancer Sci Clin Ther 2024
DOI:10.26502/jcsct.5079254

15. Jacome LS, Deshmukh SK, Thulasiraman P, et al. Impact of covid-19 pandemic on ovarian cancer management: adjusting to the new normal. Cancer Manag Res 13 (2021): 359-366;

16. Leibold A, Papatla K, Zeligs KP, et al. COVID-19 and gynecologic oncology: what have we learned? Curr Treat Options in Oncol 22 (2021).

17. Fotopoulou C, Khan T, Bracinik J, et al. Outcomes of gynecologic cancer surgery during the COVID-19 pandemic: an international, multicenter, prospective CovidSurg-Gynecologic Oncology Cancer study. Am J Obstet Gynecol 227 (2022): 1-25.

18. Bruce SF, Huysman B, Bharucha J, et al. Impact of the COVID-19 pandemic on referral to and delivery of gynecologic oncology care. Gynecol Oncol Rep 39 (2022): 100928.

19. Altın D, Yalçın _ I, Khatib G, et al. Management of gynecological cancers in the COVID-19 era: a survey from Turkey. J Turk Ger Gynecol Assoc 21 (2020): 265-271.

20. Frey MK, Ellis AE, Zeligs K, et al. Impact of the coronavirus disease 2019 pandemic on the quality of life for women with ovarian cancer. Am J Obstet Gynecol 223 (2020): 1-9.

21. Chen Z, Zhang C, Yin J, et al. Challenges and opportunities for ovarian cancer management in the epidemic of Covid-19: lessons learned from Wuhan, China. J Ovarian Res 14 (2021): 35.

22. Jacome LS, Deshmukh SK, Thulasiraman P, et al. Impact of COVID-19 pandemic on ovarian cancer management: adjusting to the new normal. Cancer Manag Res 13 (2021): 359-366.

23. Bogani G, Ditto A, De Cecco L, et al. Transmission of SARS-CoV-2 in surgical smoke during laparoscopy: a prospective, proof-of-concept study. Journal of minimally invasive gynecology 28 (2021): 1519-1525.

24. Fader AN, Huh WK, Kesterson J, et al. When to operate, hesitate and reintegrate: society of gynecologic oncology surgical considerations during the COVID-19 pandemic. Gynecologic oncology 158 (2020): 236-243.

25. Leung E, Pervaiz Z, Lowe-Zinola J, et al. Maintaining surgical care delivery during the COVID-19 pandemic: A comparative cohort study at a tertiary gynecological cancer centre. Gynecologic oncology 160 (2021): 649-654.

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