



Research Article

Cancer Surgeries During COVID: Surgeon's Dilemma

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Abstract

Introduction: Elective surgeries all around the world were deferred as the world was hit by COVID. COVID patients occupied most of the hospital facilities. There was uncertainty on the testing methods and the effect of COVID on postoperative course. Cancer patients were greatly affected, as the risk of disease progression is high with delay. We present our experience of managing cancer surgeries at a rural cancer center. **Methodology:** Patient's data from 1.1.20 to 31.05.21 was retrieved from electronic medical records and departmental logbook. **Result:** A total of 1105 major surgeries were performed. Breast (42.4%), head and neck (20.2%) and gynae-oncology (16.4%) comprised the majority. Majority were ASAI and ASAII and median age was 54 years. Major complications (Clavien -Dindo IIIb and IV) were seen in 22 patients and mortality was seen in 5 patients. **Conclusion:** Since most of the world is uncertain about the duration of this pandemic hence oncosurgeons need to stick to the Latin phrase of "primum non nocere" i.e. first do no harm. Extraordinary situations like these calls for extraordinary measures, which no guideline will tell. Every institution must make a policy, which suits their patient population and resources.

Keywords: Cancer surgeries; COVID pandemic

Background

First case of COVID 19 in India was diagnosed on 27th January 2020 in Kerala. India, like rest of the world, was brought to a standstill when the first lockdown was announced on 24th March 2020. It was initially for a period of 21 days but got extended due to rising number of cases. Various phases of "unlock" were then announced starting from 8th June 2020. Peak of cases was attained in September 2020 during the first wave and second wave started somewhere in first week of March 2021. Priorities were redefined and resources were diverted to treating COVID patients. Since delaying cancer treatment has both psychological and survival consequences hence we continued with our cancer directed services during the pandemic.

Methodology

Electronic medical records and departmental logbook software were accessed for patient's related data from 1.1.20 to 31.05.21. SPSS software was used for analysis.

COVID testing

There was no in house COVID 19 testing facility and as testing methods and policies were still being developed, hence during the initial 3 months of pandemic except head and neck oncology preoperative reverse transcriptase polymerase chain reaction (RT-PCR) test was not done for asymptomatic patients. Patients posted for major visceral surgeries were admitted for 5 days in ward in the preoperative period to look for any COVID related symptoms. After July 2020 all surgical patients were tested with RTPCR on nasopharyngeal swabs before surgery.

Results

A total of 1105 major oncosurgical procedures were performed on a total of 1053 patients. DMG (disease management group) wise case distribution is shown in Table 1. Around 56 (5.0%) patients underwent more than one surgical procedure. Approximately 90.7% patients were from state of Punjab followed by Haryana (7.0%) and other states. A total of 72.2% of our patients were females and 27.8% were males. Median age was 54 years (range 5-91 years). A total of 539 (51.2%) patients were ASA (American society of anesthesiologist) I, 472 (44.8%) were ASA II and 42 (3.9%) were ASAIII. Major complications [Clavien-Dindo (CD) classification IIIb & V] were also looked at (Tables 1 and 2).

DMG	Numbers
Breast Oncology	
➤ Modified radical/Simple mastectomy	282
➤ Breast conservation surgery/wide excision	172 Total: 469
➤ Chemoport	05 (42.4%)
➤ Others	10
Head and neck Oncology	
➤ Buccal Mucosa composite resections/wide excision	74
➤ Tongue wide excision/glossectomy	50
➤ Laryngectomy	12 Total: 223
➤ Maxillectomy/parotidectomy	14 (20.2%)
➤ Thyroidectomies	26
➤ Others	47
Gynae-oncology	
➤ Interval debulking surgery/Primary cytoreduction	136
➤ Radical Hysterectomy	16 Total: 181
➤ Vulvectomy	05 (16.4%)
➤ Others	24
Gastrointestinal Oncology	
➤ Cholecystectomy (Radical/simple)	09
➤ Gastrectomy	14
➤ Abdominoperineal resection/Anterior resection/Low Anterior Resection	29 Total: 132 (12.0%)
➤ Hemicolectomy	25

➤ Pylorus preserving pancreaticoduodenectomy	06
➤ Others	49
Uro-oncology	
➤ Radical Nephrectomy	24
➤ Penectomy + Groin node dissection	21
➤ Retroperitoneal lymph node dissection	06 Total: 66
➤ Radical/partial cystectomy	06 (6.0%)
➤ Others	09
Bone & soft tissue oncology	
➤ Amputation/Disarticulation	11
➤ Wide excision	19 Total: 31
➤ Others	01 (2.8%)
Thoracic Oncology	
➤ Lung Metastectomy	01 Total: 2
➤ Chest wall resection	01 (0.2%)
Miscellaneous	01 (0.1%)

Table 1: DMG wise distribution.

DMG	CD (IIIb&IV)	CD V (mortality)
Breast	3	0
Head and Neck	10	1
Gynae-oncology	2	0
Gastrointestinal Oncology	5	3
Bone & soft tissue	1	0
Uro-oncology	1	1

Table 2: Clavien-Dindo (CD) complications DMG wise.

Discussion

Our center is located in rural Punjab catering mainly to Punjab and its neighboring states. It was advised to discontinue elective surgeries [1] and prioritize non-emergency surgical cases [2]. Since we are a part of Tata memorial center, Mumbai, hence we continued providing oncological services during the pandemic. We had to balance between the risks of disease progression v/s patients contracting COVID infection during hospitalization.

Challenges

Initial challenges included preoperative testing for COVID as it was not available in house. It is well known that cancer patients infected with COVID -19 have more risk of complications as compared to general patients [3]. COVID 19 patients undergoing major surgery have higher risk of pulmonary complications [4]. Routine preoperative testing for COVID -19 is recommended before all major surgeries [5]. All patients were screened for any upper respiratory tract symptoms or history of close contact with a COVID patient. Preoperative testing was made compulsory in all head and neck patients especially who required an elective tracheostomy. But for other cases it varied from symptom based testing to admitting before surgery for five days to look for any new symptom in patients undergoing major visceral surgery. Preoperative patients were separated from operated patients in different wards. Patients who were tested positive were mostly instructed to wait as per guideline [6] with some variation depending on the urgency of surgery. Total 16 such patients came positive on routine RTPCR testing before surgery. Policy for preoperative testing was revised from time to time as per available guidelines.

Second challenge was protecting the health care providers, as the staff was limited and continuing the services was top priority. Everyone was instructed to wear the protective gear. For initial two months after lockdown staff was rotated to limit the exposure. During first wave 9 of our staff came positive (7 paramedical staff + 2 nursing staff) unlike second wave when infection rate increased amongst all the care providers (8 paramedical staff + 9 nursing staff + 7 doctors).

Third challenge was to prioritize surgeries. Since there cannot be guidelines for such a situation hence patients were operated as per merit. Surgeries likely to have major blood loss were postponed, as the donations are few leading to decreased availability with blood bank. During initial two months of first wave priority was given to patients who were post chemotherapy. Amongst breast DMG upfront cases that were strong ER/PR positive were started on hormonal therapy. Nephrectomy for small kidney masses was delayed. All GI and gynae-oncological malignancies were given more attention, as the risk of disease progression is high with time lapse. Head and neck oncology cases were taken as per the urgency.

Laparoscopic surgeries are meant to fasten rehabilitation and decrease hospital stay, which is especially important during this pandemic. Concerns of virus transmission during CO₂ leakage are not supported by data. However precautions are advised [7]. Since there was a lot of ambiguity during the start of pandemic hence we deferred laparoscopy initially but later on adopted it. Total number of laparoscopic procedures done was 34 (12 in gynae-oncology, 8 in uro-oncology and 14 in GI oncology).

Our trend of cases (month wise number of surgeries) in last 1½ year is shown in Figure 1. There was a sudden dip in number of cases in April 2020 as patients were finding it difficult to commute because of the lockdown and because some were in COVID red zone. By the time second wave started in March 2021 we were better equipped and informed to deal with the problem. This is evident by the graph as number of cases done was significantly more as compared to first COVID wave. Our first exposure to a covid positive patient was in June 2020 when a patient who underwent abdominoperineal resection turned COVID positive in postoperative period. Since then eight patients have turned COVID positive in postoperative period despite a negative report before surgery. As a protocol, amongst them who required hospitalization were shifted to near by COVID facility. Two patients died of COVID related multiorgan failure and six patients recovered with minor issues like vomiting , diarrhoea and wound dehiscence (Figure 1).

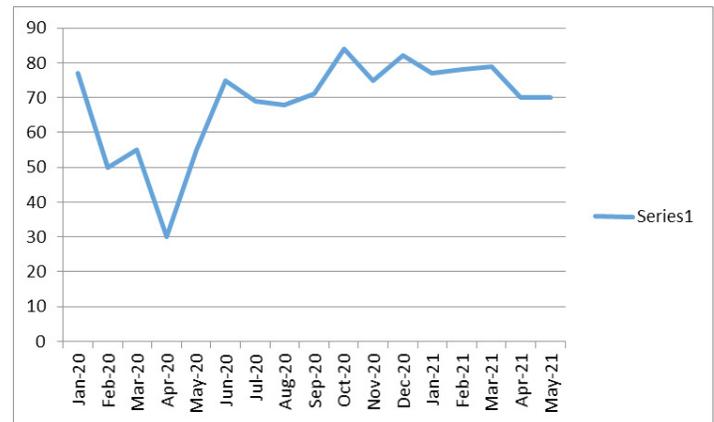


Figure 1: Surgical Trend during COVID -19 wave.

Conclusion

To the best of our knowledge this is the largest series on cancer surgeries during COVID pandemic in Indian patients in a rural cancer center. While the world battles multiple waves of infection, surgeons especially oncosurgeons faces the dilemma of balancing the act. Now since we are accepting the impact of the pandemic on non-COVID diseases [8], guidelines are likely to come up which will show us the path.

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