

Review Article

The Resumption and Management of Bariatric Surgical Procedures and Postoperative Care during COVID-19 — A Single Surgeon Experience from India

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The Novel Coronavirus Disease 2019 (COVID-19) pandemic has hampered the bariatric surgery, the only effective option for patients with obesity with or without comorbidities, worldwide. Obesity and diabetes are two major risk factors for severe forms of COVID-19 and candidates for bariatric surgery are exposed to a high risk of mortality linked to the pandemic. Thus it is crucial to resume such surgery to attenuate the impact of its interruption on the population. The current article delineates the effective strategies that are devised to resume elective bariatric surgery and provide the continuity of care in the backdrop of COVID-19 crisis.

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Since its outbreak in Wuhan, China in December 2019, the novel coronavirus 2 (SARS-COV-2) responsible for the pandemic status of coronavirus disease 2019 (COVID-19) has caused massive stress on healthcare systems globally. The emergence of this disease also disrupted the bariatric surgery program globally and has led to changes in elective surgical care. To oblige the unprecedented pressure to free up inpatient capacity and because of intraoperative risks for viral contagion among patients and staff, the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) has recommended that all elective metabolic and bariatric procedures, both surgical and endoscopic, should be postponed until the end of the pandemic¹. Similar measures have been recommended by the “Guidance for Triage of Non-Emergent Surgical Procedures,” by the Centers for Medicare and Medicaid Service (CMS) and the American College of Surgeons (ACS) in March 2020, to postpone all elective cases².

The paradigm shift of COVID-19 highlighted the role of obesity and related comorbidities, given the detrimental effects of COVID-19 in these individual's i.e. higher rates of hospitalization and poorer clinical outcomes³. Due to the progressive and relapsing nature of obesity, delaying its treatment would further lead to metabolic derangements especially in times of lockdown where lifestyle modifications are difficult to

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Editor's Comment :

- In this unprecedented COVID-19 crisis, it is imperative to ensure that pre- and postbariatric surgery patients continue to receive adequate care given the harmful effects of COVID-19 in these subset of patients.
- This article delineate specific strategies for the safe resumption of bariatric surgery program as well as the following key practice patterns and precautions to mitigate interruptions in patient care.

follow. The delay of bariatric surgery which is a mainstay treatment of morbid obesity and significantly improves comorbidities like diabetes, heart disease and hypertension may affect patients' health in different ways. However, on the contrary to above recommendations, the statement of American Society for Metabolic & Bariatric Surgery (ASMBS) on metabolic and bariatric surgery during COVID pandemic, dated 23 June 2020, strongly rejects classifying bariatric and metabolic surgery as elective and prefers to use the term “medically necessary time- sensitive surgery” or ‘medically necessary non-emergent surgery’, in order to clarify the effectiveness of this procedure in treating a number of diseases besides obesity. Given this unprecedented scenario and to mitigate interruptions in patient care, we used robust telehealth modalities including video and phone call systems to manage the continuity of patient care and resumed the bariatric surgery program at one of our four centers by unlocking the following practice patterns, considerations and precautions.

Ensuring Continuity of Patient Care during COVID-19 Lockdown :

Respecting the national and international guidelines,

all elective cases have been stopped at all our operating centers during the lockdown period and certain strategies were implemented for continuous and consistent management of patient care. During this period of uncertainty, maintaining a line of communication with bariatric patients is essential for continuity of care and also keep those whose surgeries were postponed engaged in their health. It was well established that telemedicine and remote consultations in bariatric patients are proven to be effective in fighting distress and reducing the level of psychological disorders⁴. Thus, a telehealth system was established via video and audio calls to ensure that pre-operative bariatric patients remain on course. To minimize the risk of nutrition-related complications in patients who have had bariatric surgery, patients were engaged with same time intervals of follow up for postoperative nutritional care. Clinical signs (skin rash, weakness, oedema, and visual changes), and symptoms (nausea, tingling, numbness, fatigue, irritability, and changes in bowel habits) of nutritional deficiency were assessed during virtual clinic sessions.

Patients in the pipeline for surgery during the months of lockdown were also followed closely, but remotely, to ensure continued weight loss or weight maintenance. To support individuals in healthy eating during self-quarantine and isolation, dietary interventions (high protein content and lower glycemic index) for weight control were recommended. Special emphasis was given to modalities like yoga, and online home workout videos as an alternative to reduce the risk of contracting COVID-19 during outdoor exercises. Routine lab tests (eg, albumin, thiamine, B12, vitamin A, vitamin D, iron, and calcium) were carried out by sending trained lab personnel for home collection of samples with all due precautions when indicated. Furthermore, to prevent the overall cross-contamination of COVID-19 infections between healthcare facilities and transmission risk to others, patients were allowed for hospital visit only when parenteral medication or emergency surgical intervention was required.

Resumption of Bariatric Surgeries and Postoperative Care in Times of COVID-19 :

All the four bariatric centers were located in the Indian state of Gujarat, Ahmedabad, Baroda, Surat and Rajkot respectively. Bariatric surgeries were resumed at the Rajkot center due to its green zone status and least prevalence of COVID-19.

Triage and COVID-19 screening :

The prioritization of elective surgery was established according to the clinical need, equity of access, and potential harm caused by delayed access. As per the previous categorizations of elective surgery, the

patients were prioritized for the bariatric surgery in whom it would provide maximum benefits such as patients with cardio-metabolic comorbidities⁵.

Given the risks of severe complications from COVID-19 in patients with obesity and type 2 diabetes, the practice guidelines from the international societies strongly recommend performing the COVID-19 screening test before any elective surgery^{1,6}. Following the same, detailed information on travel history and COVID prevalence among family, friends, neighbors and locality was collected to check for the history of suspicious contact. In addition, all surgical patients were screened for clinical signs and symptoms of infection like fever, cough, cold, sinusitis, diarrhea etc. and an RTPCR test for COVID-19 was performed among all patients being admitted for surgery.

Laparoscopic approach :

Despite the potential for higher risk of contagion, the laparoscopic approach in bariatric and metabolic surgery is associated with substantial benefits including lower rates of mortality and complications (including pulmonary and procedural), and shorter hospital stays compared with traditional open surgery, especially in patients with severe obesity^{7,8}. For these reasons, the laparoscopic approach was accessed and followed with all due precautions according to prescribed guidelines specified in Fig 1.

- Anesthetic precautions included avoiding high pressure ventilation use of video laryngoscope and viral filters in the circuit.
- Air tight trocars to prevent leaks.
- Minimizing the use of electrocautery.
- Use of instruments like endostitch and power gun or I drive to expedite the surgery.
- Close suction circuit with sodium hypochlorite for fumes and gases from ports.
- Removing the Specimen only after decompression.
- Decompression thru the lower most port in closed circuit suction.
- Restricting the entry of staff with maximum four people in the OR.
- Adequate and appropriate PPE for all the staff involved in patient care.
- Postoperative patient care was modified.
- Patients were allowed only one personal attendant who too was thoroughly screened and tested if required.
- Visitors were strictly prohibited.
- Food and beverages were provided in the patient's room with no touch technique.
- Sanitizing the room surfaces was done twice a day. Attending staff were trained in maintaining social distancing and wearing adequate PPE.

Fig 1 — Guidelines for laparoscopic approach in bariatric and metabolic surgery

Month	Total Cases	Elective Surgery		Emergency surgery	Venti Usage	Hospital stay	Complications	
		SLEEVE	RYGBP				Post-op	Pre-op
April	1			1 internal Hernia	-	2-days	-	-
May	4	1	3	-	-	2-3 Days	-	-
Jun	16	3	13	-	1	3-4 Days	-	1

In the month of April, emergency surgery was performed in one patient with internal hernia. In May, the bariatric surgery program was unlocked with 4 elective surgery out of which 3 were Roux-en-Y gastric bypass (RYGBP) and 1-SLEEVE gastrectomy. All 3 patients of RYGBP had cardio-metabolic comorbidities along with obesity. In June, 16 patients were operated of which 13 were RYGBP and 3-SLEEVE gastrectomy. One patient for grade sleep apnea required ventilator support for 12 hrs postoperation. 1 patient developed palpitation & showed elevated D dimer suggestive of an early pulmonary embolism on the second postoperative day and was heparinized with higher dose for 3 days (Table 1). The median length of hospital stay was 3 days and patients were discharged on the third postoperative day.

To inspect the postoperative wound dehiscence following the surgery, the patients were advised to remove the dressing of the surgical site and were requested to send a picture of the same. To facilitate systematic interventions to improve communications and achieve patient-centered solutions, tele follow-ups were recommended at regular intervals as per the bariatric protocol. After discharge, none of the patients have developed any complications and no significant complaints have been reported. The wound healing was found to be satisfactory in all the patients. Further, the patients were contacted every week for 1 month and every 15 days for the next two months and were advised with dietary options and exercises considering their local environment individually. Overall, the weight loss in all the patients has been shown to be satisfactory which is associated with resolution of related comorbidities and stoppage of medicines.

CONCLUSION

In summary, given the uncertainty regarding the progressive nature of obesity, diabetes, and related conditions, combined with the effects and duration of

the COVID-19 outbreak, delaying bariatric and metabolic surgery could increase the risks for morbidity and mortality in these candidates which would make them vulnerable to a severe form of COVID-19. During these challenging times, it is paramount that online consultations and telehealth must be embraced for

delivering care to overcome the negative effects of the pandemic on the patient's health. Bariatric surgery results in a postoperative betterment of those comorbidities reducing the risk while waiting for the anti COVID-19 vaccination.

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