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Case Report

Total laparoscopic hysterectomy in a super obese patient - a challenge to gynecologists

Kalyani S. Dhanapani, Arthi Sundararaman*

Department of Obstetrics and Gynecology, Southern Railways Headquarters Hospital, Chennai, Tamil Nadu, India

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***Correspondence:**
Dr. Arthi Sundararaman,
E-mail: arhisundar@gmail.com

ABSTRACT

Laparoscopic approach is preferred over laparotomy in almost all cases requiring hysterectomy because of reduced pain, postoperative complications, blood loss, hospital stay and faster recovery. Laparoscopic approach was traditionally considered to be difficult in morbidly obese patients but with advancement in laparoscopic techniques and accessibility of bariatric trocars this approach is gaining more importance. Here, we present a 51 years old multiparous lady with recurrent postmenopausal bleeding with multiple comorbidities for which total laparoscopic hysterectomy (TLH) was done and the patient recovered with no postoperative complications.

Keywords: Case report, Total laparoscopic hysterectomy, Bariatric trocars

INTRODUCTION

Morbid obesity, traditionally considered a contraindication for total laparoscopic hysterectomy (TLH), is now evolving into an indication due to advancements in minimally invasive surgical techniques.[1] These innovations have significantly reduced patient morbidity and mortality rates and facilitated early recovery.[2,3] Although there are several physiological and technical challenges associated with laparoscopy in morbidly obese patients, the benefits of early recovery and ambulation outweigh the risks of the open approach.[4] This report highlights the methods of preoperative optimization, intraoperative considerations, and postoperative management strategies employed to achieve a successful TLH and bilateral salpingo-oophorectomy in a super obese patient.

CASE REPORT

A 51-year-old postmenopausal woman presented to the clinic with a history of recurrent postmenopausal bleeding for one year associated with intermittent lower abdominal pain. She had multiple comorbidities including type 2 diabetes mellitus, hypertension, dyslipidemia bronchial asthma with seasonal exacerbations and had been diagnosed with obstructive sleep apnea, requiring continuous positive airway pressure (CPAP) therapy for the past six months. The patient had undergone an open mesh plasty eight years earlier and a laparoscopic mesh plasty in 3 months back for recurrent hernia.

On examination, she was super obese with body mass index (BMI) of 52 kg/m^2. Her abdomen was obese, pendulous with horizontal mesh plasty scar at the level of umbilicus but her gynecological examination was unremarkable. Her pelvic ultrasound revealed a bulky uterus size with thickened endometrium and multiple seedling fibroids. Endometrial biopsy showed scanty proliferative epithelium. Her comorbid conditions were optimized adequately, and she was on CPAP therapy for three weeks prior to surgery and then posted for surgery.

Under general anesthesia, with the patient in dorsal lithotomy Trendelenburg position with a 20-degree tilt and liberal arm stationary shoulder blocks to prevent compressive nerve injury hysterectomy was proceeded.

Pneumoperitoneum was created using a Veress needle, and the primary port was placed at Palmer's point. Due to difficulty in abdominal wall entry due to increased abdominal wall thickness, 10 mm bariatric trocar was used. And pneumoperitoneum created with carbon dioxide at insufflation pressure of 15 mmHg on low flow. The excessive intra-abdominal adiposity led to challenges with visceral exposure and retraction; however, this was overcome by utilizing the additional laparoscopic grasper operated by the primary assistant using lateral port. Three additional lateral ports were used.

Figure 1: Bulky uterus adherent to anterior abdominal wall.

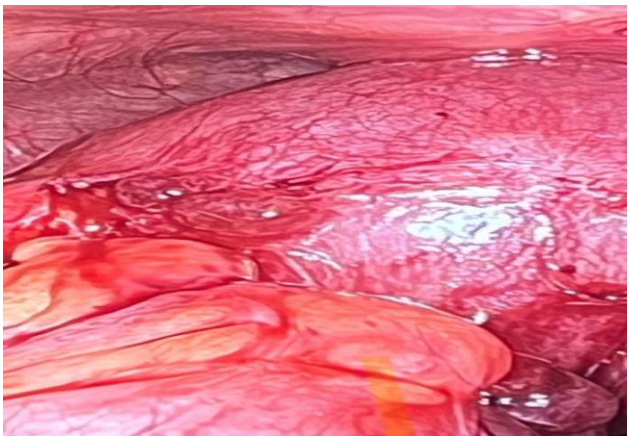

Figure 2: Adhesions to anterior abdominal wall due to previous abdominal surgery.

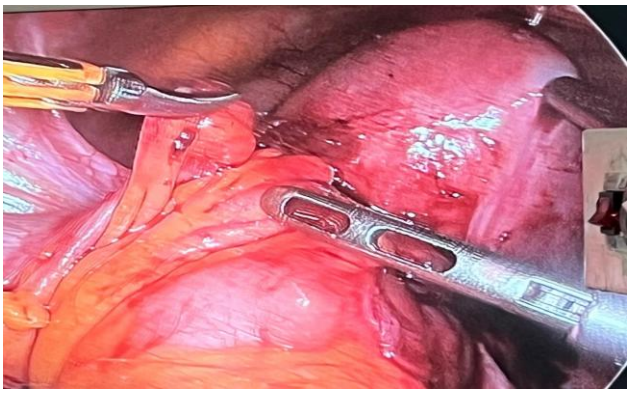

Figure 3: Adhesions of right tube to lateral side wall being released with bipolar and harmonic.

Operative findings

Findings include: bowel adhesions were noted at the level of umbilicus, filmsy adhesion noted between uterus and lateral pelvic wall, the uterus was 10-weeks size with multiple seedling fibroids, and bilateral tubes and ovaries appear normal.

Bowel adhesions were separated with sharp dissection using scissors with the help of a surgeon. Laparoscopic hysterectomy proceeded using bipolar cautery and harmonic after skeletonizing ureter on both sides. The specimen was retrieved vaginally and the vault was closed by endosuturing using v lock sutures. Trendelenburg positioning was maintained throughout the procedure without compromising ventilation. The entire procedure was completed in 90 minutes with minimal surgical blood loss of 100 ml.

Postoperative care

Patient was transferred to ICU and was electively extubated after four hours. She received adequate analgesics, antibiotics and chest physiotherapy. Oral feed was started within 6 hours of surgery. In addition to pneumatic compression stockings, pharmacological thromboprophylaxis with low molecular weight heparin was given according to modified Caprini score. Early ambulation was initiated. Patient recovered well and was discharged in stable condition on the third postoperative day. Sutures were removed on the seventh postoperative day.

Figure 4: Post operatively patient recovered early without any major complications.

DISCUSSION

TLH is generally considered feasible and safe for obese women, regardless of their body mass index (BMI).[1] Major operative difficulties in obese patients includes increased

technical difficulty due to reduced visibility and limited workspace, potential need for longer operative times and challenges in accessing the surgical site due to excess adipose tissue and patient positioning.

In obese women, the mean umbilical location was found to be on average 2.9 cm compared to non-obese women - 0.4 cm caudual to the bifurcation. of aorta.[4] In obese patients, there is a higher likelihood for the failure of Veress technique and chances of false entry and preperitoneal insufflation. Lee Huang point and Jain point are two alternative abdominal entry sites.

Specialized equipments required for TLH in morbidly obese patient include Bariatric instruments measuring up to 45 cm in length, compared to standard 33 cm instruments. Optical trocars allow surgeon to visualize the abdominal layers when anticipating adhesion in obese patients.[2] The longer instruments provide better access to deeper pelvic structures particularly when performing colpotomy and closing the vaginal vault. Standard TLH is performed using three 5-mm laparoscopic ports; an additional port may be necessary for obese patients.[5] The extra port is typically placed in the hypogastrium for proper exposure and retraction. Specialized tables which can support up to 300 kg are available for obese patients. Boot type stirrups, secure belts and gel pads aid in proper positioning of patients. High-definition laparoscopic cameras and monitors are essential for optimal visualization. Advanced bipolar or ultrasonic energy devices may be preferred for improved hemostasis and tissue sealing in the often more vascular operative field of obese patients.[1] TLH complication rates have been reported as 6.9% in obese women compared to 4.1% in non-obese patients.[3]

Some of the major complications include: higher rates of wound infection and wound dehiscence in obese patients compared to non-obese patients; surgical blood loss >500 ml in obese patients; higher rates of unplanned conversion to open surgery, especially in class III obesity patients (1.8% versus 0.7% in normal BMI); higher postoperative complication rates in obese patients (23.6% versus 15.6% in non-obese), they include issues like infections, ileus, pneumonia, urinary tract infections; and significant higher operating time.[1,6,7]

Other complications like urologic injury, bowel and vascular injuries and need for reoperation had no statistically significant difference between obese and non-obese patients.[7]

However, above complications can be significantly avoided by proper preoperative planning including careful patient selection, thorough preoperative assessment and optimization of comorbidities before surgery. Obstructive sleep apnea can be prevented by preoperative CPAP therapy.

The postoperative care to reduce the long term and short term complications include: multimodal pain management with non-opioid and opioids analgesics; incentive spirometry or continuous positive airway pressure is used to avoid postoperative hypoxemia and atelectasis; venous thromboembolism can be prevented by early ambulation, mechanical prophylaxis (Tedd stockings) and chemo thromboprophylaxis like low molecular weight heparin or unfractionated heparin, extended prophylaxis also beneficial for patients not fully ambulatory before surgery; early feeds is recommended often within 12 hours of surgery; special attention to wound care is important, as surgical site infections are more common in obese patient; and prevention of pressure ulcers through ambulation is needed when patients are stationary for long period.[8-11]

Obese patients who underwent TLH had shorter recovery time and reduced hospital stay compared to open surgery.[10] As per the study by O'Hanlan et al, TLH patients had lower odds of staying >1 day in the hospital compared to patients of normal BMI (OR=0.65, p=0.015).[1] Study by Janda et al found that a higher proportion of TLH patients showed at least 10% improvement in quality of life scores from baseline to 4 weeks after surgery compared to total abdominal hysterectomy patients (31% versus 14%).[11]

CONCLUSION

Obese patients had good recovery outcomes after TLH compared to open surgery. TLH resulted in reduced complications, faster recovery, psychological benefits, cosmetic benefit and quick return to daily activity.

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