Concomitant Abdominal Procedures in a Low-Resource Setting: A Surgical Case Report

ABSTRACT

When abdominal conditions such as leiomyomas (uterine fibroids), incisional hernias, and pendulous abdomen that require surgical interventions occur simultaneously in an individual, they can be managed concurrently or in stages. Combining these procedures offers theoretical advantages such as avoiding a second surgery, reducing downtime from work, minimizing anaesthetic risks, and lowering costs. Safety concerns have been raised but evidence suggests that simultaneous surgery is safe with careful planning. We present a case of a 42-year-old woman who underwent a subtotal hysterectomy, right salpingo-oophorectomy, incisional hernioplasty, and abdominoplasty concurrently with successful outcomes.

Keywords: Leiomyoma; incisional hernia; hysterectomy; hernioplasty; abdominoplasty.

1. INTRODUCTION

Women seeking elective gynaecological surgeries may also have abdominal wall issues such as a pendulous abdomen, stretch marks from repeated pregnancies and deliveries, incisional hernias, or scars from previous surgeries [1]. These problems can be a source of discomfort and self-consciousness for many patients and may have a negative impact on their quality of life. In some cases, physical symptoms like hygiene challenges, skin problems, and a higher risk of infections may also be present [2].

Dealing with combined pathologies can be especially challenging in surgical practice. Treatment may involve multiple surgical interventions staged over time or a single operation to address multiple conditions simultaneously. In today's medical landscape, both patients and surgeons are increasingly considering the option of combining multiple surgeries in a single session. This approach offers several benefits, including reduced risks associated with anaesthesia, shorter recovery and healing times, decreased hospital stays, and lower overall costs [3,4]. Patients undergoing elective intraabdominal procedures with a pendulous abdomen may benefit from adding abdominoplasty for improved aesthetic results [4].

There is a common belief that combining procedures, such as general surgery and plastic or gynaecological interventions in a single surgical session, can impact patient morbidity and postoperative hospital stay compared to performing the procedures separately [3]. However, evidence suggests otherwise. In a study by Simon et al., patients who underwent abdominoplasty along with other intra-abdominal procedures did not experience a significant rise in complications [5].

Here, we present a middle-aged woman who underwent subtotal hysterectomy, right salpingo-oophorectomy, incisional hernioplasty, and abdominoplasty in one sitting.

2. CASE PRESENTATION

A 42-year-old woman with three previous caesarean deliveries presented to our surgical outpatient clinic with a 2-year history of progressive abdominal protrusion and heavy menstrual bleeding. The protrusion was noticeable around her incision scar, gradually increasing over time, especially when standing. She did not show signs of intestinal obstruction. She had a history of wound complications in her last delivery and noticed the abdominal protrusion two years later. She also experienced increased menstrual flow, clot passage, and occasional dizziness, with no intermenstrual or postcoital bleeding. There was no family history of ovarian or endometrial malignancy. She did not want more pregnancies and had no other medical conditions.

Upon examination, she appeared pale with a pulse rate of 86 beats per minute, respiratory rate of 20 breaths per minute, and blood pressure of 110/70mmHg. Her abdomen protruded over the pelvis with a reducible mass [Figure 1].

Fig. 1. Huge incisional hernia with pendulous abdomen

The fascial defect, measuring approximately 8 x 8 cm, was identified. A firm nodular pelvic mass roughly the size of a 16-week pregnancy, was palpated through the defect. A diagnosis of symptomatic uterine fibroid, along with an incisional hernia and grade IV anterior abdominal wall lipodystrophy as classified by Pitanguy et al., [6] was established.

Her packed cell volume (PCV) was 22.8%, haemoglobin (Hb) concentration was 7.2 g/dL, and kidney function tests were normal. An abdominopelvic ultrasound scan revealed multiple uterine fibroids. After optimization with blood transfusions, her PCV increased to 34% and Hb level to 11.3g/dL. She subsequently underwent laparotomy. Intravenous antibiotics (Ceftriaxone 1g and Metronidazole 500mg) were administered at the induction of

anaesthesia. Intraoperative findings included a 20 x 20 cm hernial defect, a 16-week size uterus with multiple myomas, and a right ovarian cyst measuring 8 x 7 x 6 cm [Figure 2].

Fig. 2. Intraoperative photograph showing the uterus with myomas and right ovarian cyst

She had a subtotal hysterectomy, right salpingo-oophorectomy, incisional hernia repair using the onlay mesh method, and abdominoplasty with the excision of 1.4 kg of excess skin [Figures 3 and 4].After completing the gynaecologic part of the procedure, the instruments were changed before continuing with the rest of the surgery tominimize the risk of postoperative infection and wound healing complications.Two negative suction drains were placed under the flap [Figure 4B]. The total duration of the surgery was 4hours and 25minutes,with an estimated blood loss of 800 ml. She received a unit of blood transfusion

intraoperatively.She continued her antibiotics for five days after surgery at their regular dosage.The drains were removed on the 6th postoperative day when the daily effluent was less than 10 ml. She was asked to ambulate 48 hours after the surgery while wearing an abdominal binder.

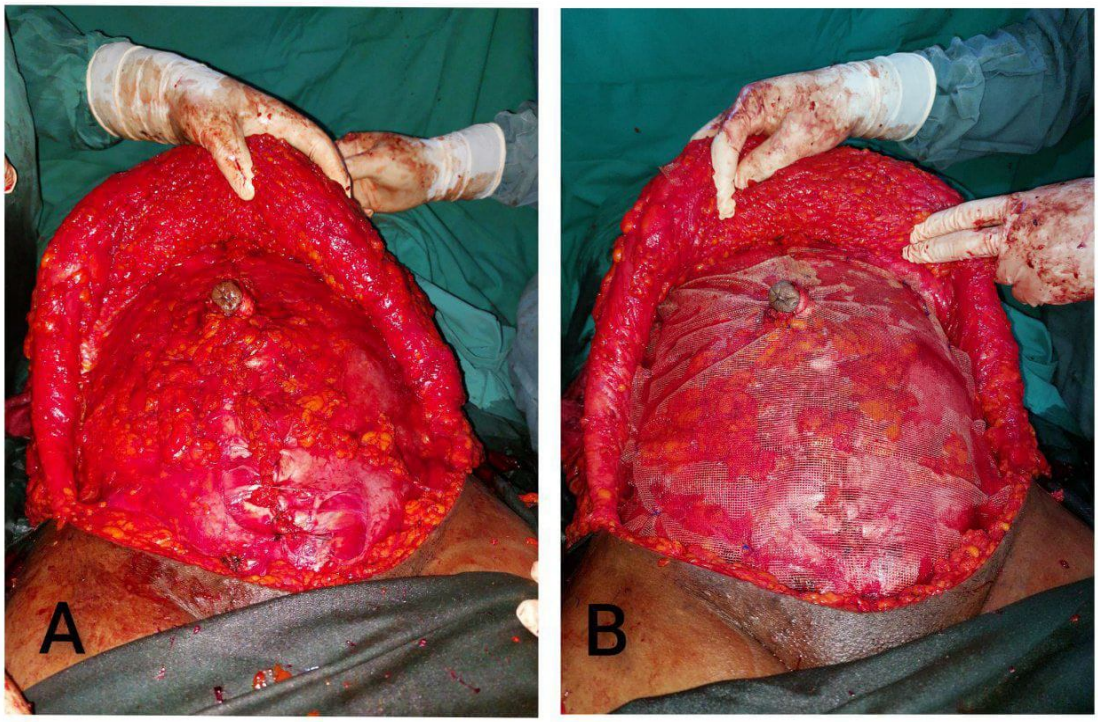

Fig. 3. Intraoperative photograph showing (A) flap elevation, and hernia defect closure, and (B) a view of the inserted mesh

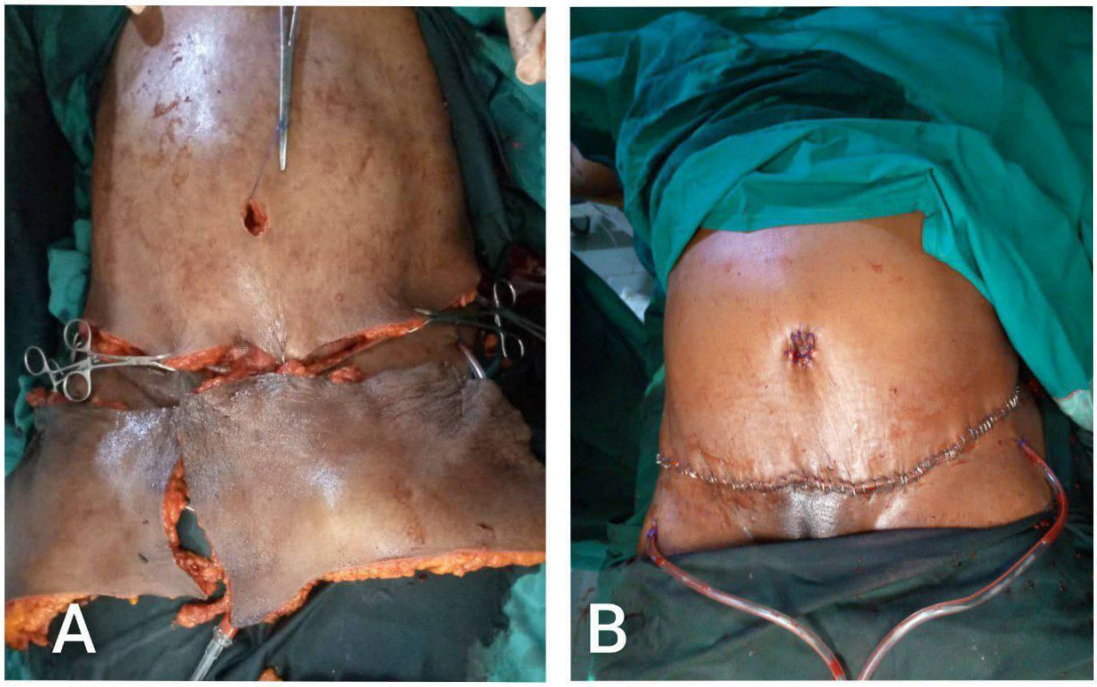

Fig. 4. (A) excised excess skin which weighed 1.4 kg and (B) the postoperative photograph after hernioplasty and abdominoplasty

She experienced minimal serous discharge from her operation wound postoperatively which resolved within five days of dressing and was discharged on postoperative day 12. She was followed up in the outpatient clinic and discharged in good condition after six months.

3. DISCUSSION

Combining abdominoplasty with other procedures, such as gynaecologic surgeries or aesthetic enhancements like breast augmentation, has garnered interest in the medical field [1,3,7]. Addressing abdominal wall defects, such as incisional hernias, during abdominoplasty is also a viable option [8].

We performed a subtotal hysterectomy, right salpingo-oophorectomy, incisional hernioplasty, and abdominoplasty in a single surgery to address our patient's issues with uterine fibroids, incisional hernia, and an embarrassing pendulous abdomen. Combining these procedures offered several advantages, such as avoiding multiple surgeries, reducing downtime from work, and minimizing the risks associated with anaesthesia. This approach was also cost-effective for the patient. Other benefits that patients can derive when these procedures are combined include improvement in psychological stress from having an apron belly, which will boost their self-confidence andenhance their quality of life, [4] and freedom from menorrhagia with anaemia, persistent pain and pressure symptoms from uterine fibroids that negatively impacttheir social, sexual, and daily activities. [9]

While the combined procedures offer potential benefits, patient safety remains the top priority for surgeons [3]. Anticipated risks include longer and more complex surgeries, higher chances of complications like infection and problem with wound healing, increased risk of blood loss and transfusions, mesh-related issues, venous thromboembolism (VTE), and potential hysterectomy-related risks such as urinary tract injuries or vaginal cuff complications. [10,11]Surgeons must carefully consider the benefits and risks of combining these procedures to ensure the best possible outcome for the patient. [12,13,14] Prophylaxis against complications like VTE is particularly important due to its relatively high incidence. [10]

Seroma is the most commonly reported complication in concomitant abdominal surgeries with a range of 0.04-38% followed by wound infection with an estimated incidence of 3.12-10.8% [8,15]. In our case, we did not observe seroma or hematoma, likely due to careful haemostasis and proper drain use. The superficial surgical site infection in the index case resolved within five days of wound dressing with povidone iodine solution. Factors such as age, comorbidity, body mass index and the experience of the surgeon have been implicated to influence complication rates [8].

Our case report aligns with the findings of other relevant reports, indicating that combining abdominoplasty with other elective abdominal procedures can be beneficial when done carefully and with the right patient selection [4,5,16]. It could be argued that performing procedures in stages may lead to multiple perioperative events, thereby increasing the risk of complications. [14]

4. CONCLUSION

Managing combined abdominal surgical conditions in a patient requires careful consideration of treatment options. This may involve staged surgeries or a simultaneous operation, with patients often preferring the latter for its combined functional and aesthetic benefits. However, performing concomitant abdominoplasty and elective abdominal procedures carries risks. Careful patient selection, precise surgical techniques, and comprehensive postoperative care are essential to minimize these risks. Achieving the desired outcome with reduced risk can be safely accomplished by a skilled surgical team, even in a resource-limited setting.

CONSENT

As per international standard or university standard, patient(s) written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard, written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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