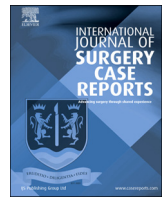




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# Covering a large abdominal wall defect using bilateral anterolateral myocutaneous thigh flap: A case report

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## ABSTRACT

**INTRODUCTION:** Closure of the abdominal wall defect by myocutaneous thigh flap is an option. The aim of this paper is to report a case of abdominal wall defect covered by bilateral anterolateral myocutaneous thigh flap.

**CASE REPORT:** A 45-year-old female presented with a large defect in the anterior abdominal wall. It was decided to cover the wound with bilateral anterolateral myocutaneous thigh flap as the defect was so large to be filled with a single flap. Under general anesthesia, a flap was elevated lateral to a line joining mid inguinal point to the lateral epicondyle, the flap was rotated under inguinal skin and sutured to the defect. The procedure was repeated for the contralateral side two weeks later.

**DISCUSSION:** Lower abdominal wall defects can be reconstructed by the use of the combined technique of sublay technique, intraperitoneal mesh placement, pedicled great omentum flap and rotation skin graft, also tensor fascia lata has been proven to be a safe and versatile flap.

**CONCLUSION:** Bilateral anterolateral myocutaneous thigh flap is practical whenever indicated. It is best suited for covering of the lower abdominal defects.

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## 1. Introduction

Groin and anterior abdominal wall defects result from multiple etiologies including tumor resection, trauma, wound dehiscence, and infection [1]. A variety of methods of temporary abdominal wall closure have been described with varying success rates in achieving secondary fascial closure [2]. During the last two decades, the use of flaps or skin grafts and the placement of a mesh have been helped to offer a more comprehensive treatment with lower rates of recurrence. While this procedure restores the structural components, sometimes it does not allow the wall to recover its function completely, especially in complete thickness defects [3]. However, in a quarter of the patients, the abdominal wall fascia could not be closed, leaving the patient with a massive and complete abdominal wall defect. These defects were contained with mesh, covered with skin grafts, and become both aesthetically and functionally less balancing [2].

Closure of the abdominal wall defect by myocutaneous thigh flap is another option. The aim of this paper is to report and discuss a case of abdominal wall defect covered by bilateral anterolateral myocutaneous thigh flap. The work has been reported in line with the SCARE guidelines [4].

### 1.1. Patient information

A 45-year-old female with a history of operation for abdominal wall hernia and prolonged wound infection, presented with a large defect in the anterior abdominal wall. Past medical, past surgical, drug and family histories were not significant.

### 1.2. Clinical findings

An overweight patient (body mass index: 28 Kg/m<sup>2</sup>) had a lower anterior abdominal wall defect measuring about (23 × 17 × 2.5) cm with healthy floor and edges. The polypropylene mesh from the previous operation was visible (Fig. 1). Vital signs were normal.

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**Fig. 1.** Anterior abdominal wall defect with visible mesh in the floor.



**Fig. 2.** Intraoperative photo (first operation) shows the flap in the position with healthy color.

### 1.3. Therapeutic intervention

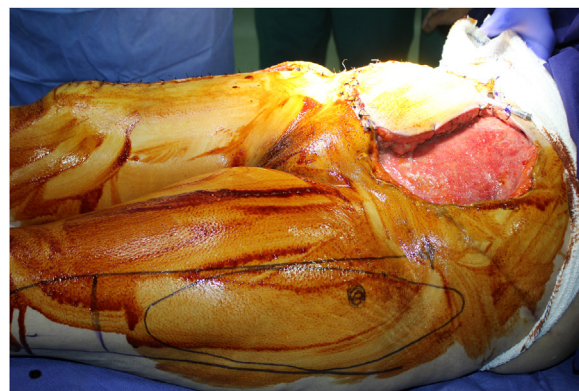
After discussion with the patient and the patient's family, it was decided to cover the wound with bilateral anterolateral myocutaneous thigh flap as the defect was so large to be filled with a single flap. The procedure was performed under general anesthesia, in supine position, a flap was elevated lateral to a line joining mid inguinal point to the lateral epicondyle, the flap was rotated under inguinal skin and sutured to the defect (Fig. 2). The procedure was repeated for the contralateral side two weeks later (Fig. 3).

### 1.4. Follow up and outcomes

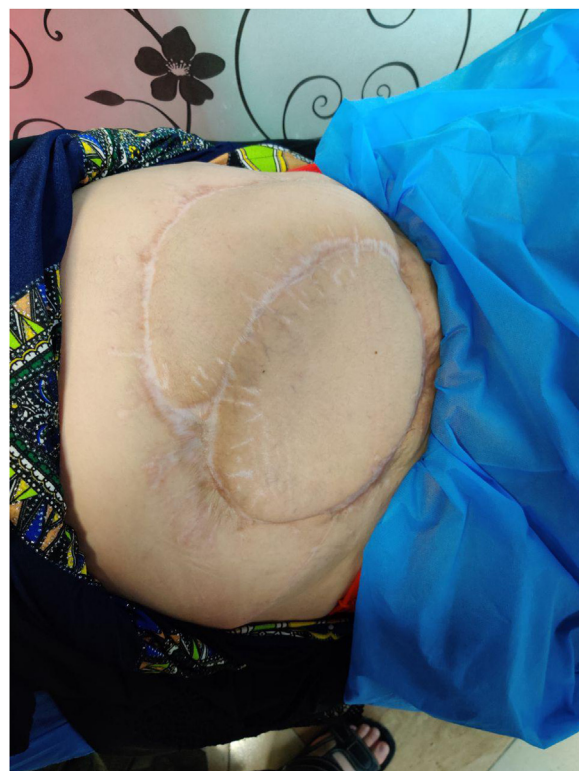
Both of the operations were uneventful. The patient with her wound was healthy six months after intervention (Fig. 4).

## 2. Discussion

Some definitive reconstructive options of abdominal wall hernias were described in the literature, however, most of the methods failed to address a complete abdominal wall defect with a lack of both fascia and overlying skin and soft-tissue coverage [2]. Although various techniques were used in the final phase of abdominal wall reconstruction, the recurrence rates are reported to be up to 54% [5], The tensor fascia lata (TFL) flap has been reported to be



**Fig. 3.** Intraoperative photo (second operation) shows planned incision sites.



**Fig. 4.** Appearance of the wound after six months.

useful to cover the defects, but the donor site may require a skin graft, herniation can still be a possible complication [1]. TFL has been proven to be a safe and versatile flap. Its first-time description by Wangenstein who was an American surgeon dates back to 1934, used a pedicle flap without an overlying cutaneous island for recurrent abdominal hernias (AH), standing out for scarce morbidity and rich vascularization. Subsequently, multiple cases were published for the reconstruction of defects adjacent and distant to the donor zone as a free flap [3].

According to the current reports, lower abdominal wall defects can be reconstructed by the use of the combined technique of sublay technique, intraperitoneal mesh placement, pedicled great omentum flap and rotation skin graft, however, the use of mesh increases the potential risks of relative complications, and the contour is uneven and unsmooth when compared with musculo-fasciocutaneous flap [1]. In the management of patients requiring open abdominal management, vacuum-assisted wound closure has reported to improve the likelihood of early fascial reapproxima-

tion and to decrease the need for later complex abdominal wall reconstruction, the typical scenario for patients requiring open abdominal management who cannot undergo early standard fascial closure, many patients require prolonged open abdomen because of visceral edema. throughout this period, the laterally displaced muscles of the abdominal wall shorten, retract, and scar in their altered position [6]. Recently, negative pressure wound therapy (NPWT) has become a popular choice of temporary abdominal closure (TAC) in cases of open abdomen (OA). In the previous studies, the success rate of achieving fascial closure with negative-pressure wound therapy (NPWT) alone has reported to range from 35 to 92% [7]. In the current case, bilateral anterolateral myocutaneous thigh flap was used to cover the wound, the procedure was performed under general anesthesia. in a supine position, a flap was elevated lateral to a line joining mid inguinal point to the lateral epicondyle, the flap was rotated under an inguinal skin and sutured to the defect.

In conclusion; bilateral anterolateral myocutaneous thigh flap is practical whenever indicated. It is best suited for covering of the lower abdominal defects.

#### Declaration of Competing Interest

There is no conflict to be declared.

#### Funding

No source to be stated.

#### Ethical approval

Approval is not necessary for case report in our locality.

#### Consent

Consent has been taken from the patient and the family of the patient.

#### Author contribution

Abdulwahid M. Salih: Surgeons performing the operation, follow up the patient. and final approval of the manuscript.

Fahmi H. Kakamad, Kayhan A. Najjar, Karukh K. Mohammed, Diyar A. Mohammed, and Shvan H. Mohammed: Writing the manuscript, final approval of the manuscript.

#### Registration of research studies

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Fahmi Hussein Kakamad.

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