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CASE REPORT

Reconstruction of Massive Chest Wall Defect After Bilateral Mastectomy Using a Bipedicled Deep Inferior Epigastric Perforator Flap: A Case Report

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ABSTRACT

Objective: Reconstruction of extensive chest wall defects following bilateral mastectomy presents significant challenges, particularly when the defect spans from the clavicle to the xiphisternum. This report describes the use of a bipedicled deep inferior epigastric perforator flap to address such complex defects while preserving donor-site function and minimizing morbidity through an integrated reconstructive strategy.

Case Presentation: A 51-year-old woman with bilateral invasive ductal carcinoma presented with an ulcerative lesion on the right breast and a palpable mass in the left. Imaging revealed large, multicentric tumors with bilateral axillary lymphadenopathy. Following suboptimal response to neoadjuvant chemotherapy, she underwent radical mastectomy on the right, including en bloc resection of the pectoralis major muscle, and modified radical mastectomy on the left. This resulted in a massive right-sided chest wall defect measuring 45 × 17 cm, and a smaller contralateral defect requiring bilateral reconstruction.

Management and Outcome: Preoperative computed tomographic angiography identified four robust medial row perforators. A bipedicled deep inferior epigastric perforator flap measuring 42 × 16 cm was harvested, with bilateral internal mammary arteries selected as recipient vessels to enable tension-free anastomoses and symmetric perfusion. Abdominal wall integrity was preserved through muscle-sparing dissection, limited undermining, and submuscular mesh reinforcement. The patient recovered uneventfully and was discharged on postoperative day five. At six-month follow-up, clinical assessment and BREAST-Q scores demonstrated complete wound healing, preserved abdominal strength, and high satisfaction across all domains.

Conclusion: This case illustrates the feasibility and clinical value of an integrated reconstructive approach incorporating bipedicled deep inferior epigastric perforator flap transfer, bilateral internal mammary artery anastomoses, and abdominal wall reinforcement. The strategy achieved durable coverage, maintained donor-site function, and optimized both functional and aesthetic outcomes in the setting of massive chest wall reconstruction following bilateral mastectomy.

INTRODUCTION

Reconstruction of extensive chest wall defects following radical mastectomy remains a formidable surgical challenge. This is especially true in cases involving large, full-thickness defects. Conventional reconstructive options, such as the latissimus dorsi (LD) flap, the transverse rectus abdominis myocutaneous (TRAM) flap, and the thoracoepigastric flap, have demonstrated clinical utility in various scenarios. However, defects extending from the clavicle to the xiphisternum often exceed the coverage capacity and vascular reliability of these techniques. In such cases, alternative strategies are required to provide sufficient soft tissue volume, stable perfusion, and acceptable functional and aesthetic outcomes [1,2].

Bipedicled DIEP Flap as an Alternative

To meet this reconstructive demand, the bipedicled deep inferior epigastric perforator (DIEP) flap has emerged as a promising option for anterior chest wall resurfacing. This technique offers extensive soft tissue coverage while preserving abdominal wall musculature and minimizing morbidity at the donor site [3]. It was initially developed for breast reconstruction in patients with either midline abdominal scars or high-volume tissue requirements. The bipedicled DIEP flap recruits bilateral abdominal tissue and maintains perfusion through two independent deep inferior epigastric pedicles, which enhances both reliability and reach [4]. In patients undergoing bilateral mastectomy for locally advanced breast cancer, where both resection and structural loss are substantial, this approach offers a practical solution to achieve long-lasting wound coverage without compromising donor-site integrity.

Viability Concerns and Knowledge Gaps

Despite its advantages, bilateral DIEP flap use introduces significant concerns regarding abdominal wall viability. This is particularly relevant when both deep inferior epigastric arteries and internal mammary arteries (IMAs) are sacrificed [5,6]. Vascular compromise in this context may increase the risk of postoperative complications such as hernia or bulging. To minimize these risks, careful preoperative planning is essential, including assessment of perfusion territories and strategies for abdominal wall reinforcement. Published literature remains limited on the specific outcomes and technical challenges of using bipedicled DIEP flaps in large, non-breast chest wall defects. This gap underscores the importance of further case-based evaluations and detailed surgical analyses.

Aim of the Present Report

To address this knowledge gap, we present a case involving successful reconstruction of a massive right chest wall defect using a bipedicled DIEP flap following bilateral mastectomy. This report outlines the surgical rationale, vessel selection, flap design, and donor-site management strategies implemented to achieve reliable coverage while minimizing complications. Through this technical description, the case aims to contribute to ongoing advancements in autologous reconstruction for complex thoracic defects.

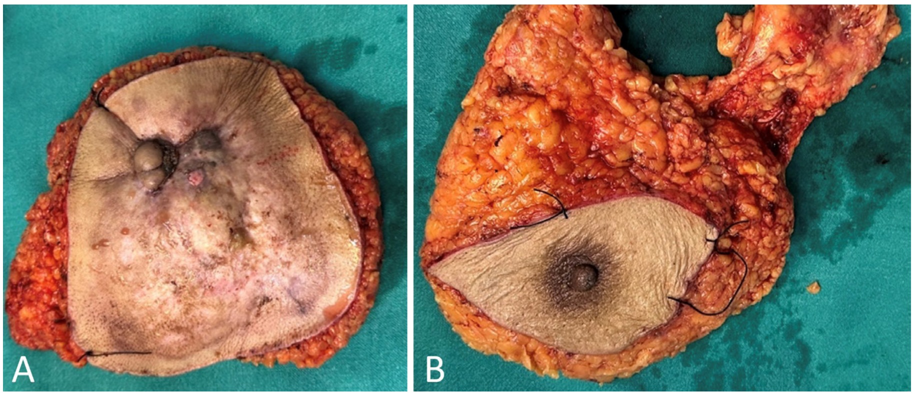

Figure 1. Right and left resection specimens. (A) Specimen from the right breast following radical mastectomy, showing an ulceroproliferative growth with involvement of the nipple–areolar complex. The resected tissue includes pectoralis major muscle, axillary lymph nodes, and surrounding adipose tissue. (B) Specimen from the left breast following modified radical mastectomy. The nipple–areolar complex is centrally located. The pectoralis major muscle is preserved. The specimen includes breast tissue, axillary lymph nodes, and adipose tissue. Resection margins are marked with sutures.

CASE PRESENTATION

A 51-year-old woman presented with a three-month history of an ulcerative lesion on the right breast. She reported no significant family history of breast carcinoma and tested negative for BRCA1 and BRCA2 mutations. Clinical examination revealed an ulceroproliferative mass with overlying skin erosion on the right breast. A distinct, firm mass was palpable in the left breast. Bilateral axillary lymphadenopathy was also evident.

Histopathological evaluation of biopsy specimens from both breasts confirmed invasive ductal carcinoma. The tumor in the right breast had a Ki-67 proliferation index of 10%, was positive for estrogen receptor (ER) and progesterone receptor (PR), and exhibited human epidermal growth factor receptor 2 (HER2/neu) expression scored as 2+ by immunohistochemistry with negative results on fluorescence in situ hybridization (FISH). The tumor in the left breast was grade 2, showed a Ki-67 index of 18%, and was also ER and PR positive. HER2/neu expression in the left lesion was similarly equivocal (2+) by immunohistochemistry and FISH negative.

Staging with positron emission tomography–computed tomography (PET–CT) revealed large, multicentric tumors in both breasts. The lesion in the right breast measured 4.5 cm and demonstrated invasion of the pectoralis major muscle. A presternal subcutaneous nodule and right axillary lymph node involvement were also observed. Bilateral tumors were classified as T3, N2, with no evidence of distant metastasis. These findings corresponded to a clinical stage of cT3N2M0.

The patient received neoadjuvant chemotherapy consisting of four cycles of doxorubicin (Adriamycin) and cyclophosphamide (AC regimen), followed by four cycles of docetaxel. Owing to a suboptimal clinical response, she subsequently underwent extensive surgical resection.

Surgical Procedure

Bilateral mastectomy and chest wall resection

We performed a right-sided radical mastectomy with en bloc resection of the entire breast tissue. This included removal of the nipple–areolar complex, the pectoralis major muscle, and the axillary lymph nodes (Figure 1A). We preserved the pectoralis minor muscle. This procedure resulted in a substantial chest wall defect measuring 45 cm × 17 cm. The defect extended from the midline of the sternum to the lateral chest wall, reaching superiorly to the clavicle and inferiorly to the xiphisternum (Figure 2).

On the left side, we performed a modified radical mastectomy involving en bloc excision of the entire breast tissue along with axillary lymphadenectomy (Figure 1B). We preserved the pectoralis major muscle, in accordance with standard technique to minimize chest wall morbidity while ensuring oncologic adequacy. Although the left-sided defect was smaller than the right, it still required careful surgical planning to enable effective reconstruction (Figure 2).

Preoperative planning and vascular mapping

We began the bipedicled DIEP flap procedure with comprehensive preoperative planning. We used CT angiography to map the vascular anatomy of the abdominal wall and to identify bilateral medial and lateral row perforators (Figure 3). These perforators were essential to ensure consistent and reliable perfusion throughout the entire flap.

Perforator selection and flap design

We selected four dominant medial row perforators, including two from each side of the abdomen. Selection was based on vessel diameter and the course of each vessel through the muscle. We designed the flap to cross the abdominal midline, which maximized its reach and allowed optimal orientation for chest wall coverage. To guide flap design and ensure adequate tissue volume, we used key anatomical landmarks such as the umbilicus, midline, costal margin, and iliac crest. We marked the abdomen accordingly for flap harvesting, as shown in Figure 3.

Flap elevation and muscle preservation

We initiated flap elevation from the lateral aspect and advanced medially. During the dissection, we preserved the perforators with precision and minimized disruption to the rectus abdominis muscle. We identified bilateral medial row perforators arising from the deep inferior epigastric arteries. We then carefully dissected each perforator to preserve vascularity to both the medial and lateral portions of the flap. We harvested a flap composed of skin and subcutaneous tissue, measuring 42 cm × 16 cm, while fully preserving the rectus muscle.

Minimizing donor-site morbidity

We limited abdominal undermining to the minimum extent necessary to reduce the risk of donor-site complications. This approach preserved perfusion to the remaining abdominal wall and minimized the risk of devascularization. We harvested both deep inferior epigastric arteries in continuity with the flap and maintained the entire construct as a single, uninterrupted unit across the midline.

Bilateral IMA Strategy

We performed bilateral microvascular anastomoses to the internal mammary vessels using an end-to-end configuration. Arterial anastomoses were

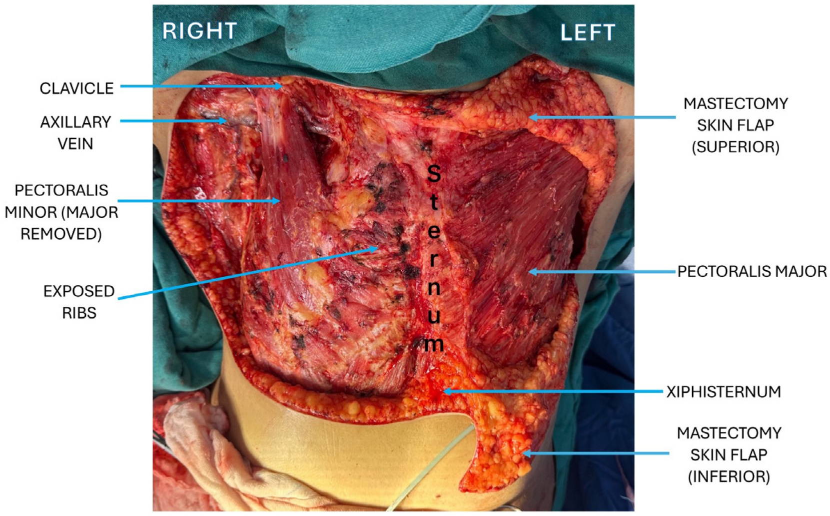

Figure 2. Bilateral chest wall defects after mastectomy. Intraoperative photograph showing an extensive right-sided defect after radical mastectomy, with tissue loss extending from the clavicle to the xiphisternum and crossing the midline. The defect exposes the underlying ribs and intercostal muscles. The pectoralis major muscle is removed, and the pectoralis minor muscle is preserved. The left side shows a smaller, well-defined defect after modified radical mastectomy, with the pectoralis major muscle preserved.

completed by hand suturing. For the venous connections, we used a coupler device. We selected the IMAs as recipient vessels because of their consistent caliber and robust flow characteristics. These features are essential to ensure reliable perfusion across the entire surface area of the bipedicled flap. By utilizing both IMAs, we achieved optimal flap orientation. This allowed complete and tension-free coverage of the chest wall defect. In addition, this strategy preserved the LD muscle as a backup reconstructive option in the event of flap compromise.

Flap orientation and pedicle alignment

We inset the flap at an oblique angle to facilitate tension-free alignment of the vascular pedicles. This orientation optimized the anastomotic geometry and minimized the risk of kinking or compression. Figure 4 illustrates the spatial relationship of the pedicles relative to the midline.

Abdominal wall closure

We closed the rectus sheath primarily with 1-0 Stratafix suture material. To reinforce the abdominal wall, we positioned a Prolene mesh in the submuscular plane. We intentionally avoided supraumbilical undermining to preserve pannus vascularity and reduce the risk of devascularization.

Surgical Outcome

Early postoperative recovery

The patient recovered without complications and was discharged on the fifth postoperative day. At the two-week follow-up, the flap remained stable, and the mastectomy skin flaps appeared viable without signs of ischemia or necrosis (Figure 5). A minor area of delayed healing was noted at the T-junction but resolved spontaneously without the need for intervention. The abdominal donor site showed complete wound closure, with no evidence of dehiscence or other complications.

Six-month functional assessment

At the six-month follow-up, comprehensive clinical evaluation and patient-reported outcomes indicated favorable functional recovery. Assessment was conducted using the BREAST-Q questionnaire, a validated tool that quantifies patient satisfaction and quality of life following breast surgery across multiple domains [7]. Scores range from 0 to 100, with higher values reflecting more favorable outcomes. In this case, the patient reported high levels of satisfaction, with a breast satisfaction score of 78, a psychosocial well-being score of 85, and a physical well-being score of 82.

Donor-site and flap integrity

No clinical evidence of flap necrosis, donor-site hernia, or abdominal wall weakness was observed. Physical examination confirmed preservation of abdominal wall function, with no signs of structural compromise. Abdominal muscle strength was maintained, and no functional deficits were identified throughout the follow-up period.

Overall surgical efficacy

The reconstructive outcome demonstrated sustained flap viability, complete wound healing, and preserved donor-site integrity without evidence of ischemia, necrosis, or hernia formation. Functional recovery was favorable, as reflected by high BREAST-Q scores across aesthetic, psychosocial, and physical domains. Abdominal wall strength remained intact, and no functional impairments were identified during follow-up. Collectively, these findings support the reliability and clinical applicability of the bipedicled DIEP flap in managing extensive chest wall defects while minimizing donor-site morbidity.

DISCUSSION

This case presents a 51-year-old female with bilateral invasive ductal carcinoma of the breast and large anterior chest wall defects following bilateral mastectomy, with the right side being more extensive. A bipedicled DIEP flap was used for reconstruction, allowing tension-free anastomoses to bilateral IMAs while preserving abdominal wall integrity. The patient achieved favorable recovery, with high BREAST-Q scores and no complications at six months. This case highlights the clinical utility of the bipedicled DIEP flap in managing extensive bilateral defects and underscores its value as a muscle-sparing option in complex chest wall reconstruction.

Abdominal Wall Perfusion Strategy

Ensuring adequate abdominal wall perfusion is a critical consideration in bipedicled DIEP flap reconstruction, particularly when bilateral IMAs are utilized as recipient vessels. In this case, preoperative assessment with CT

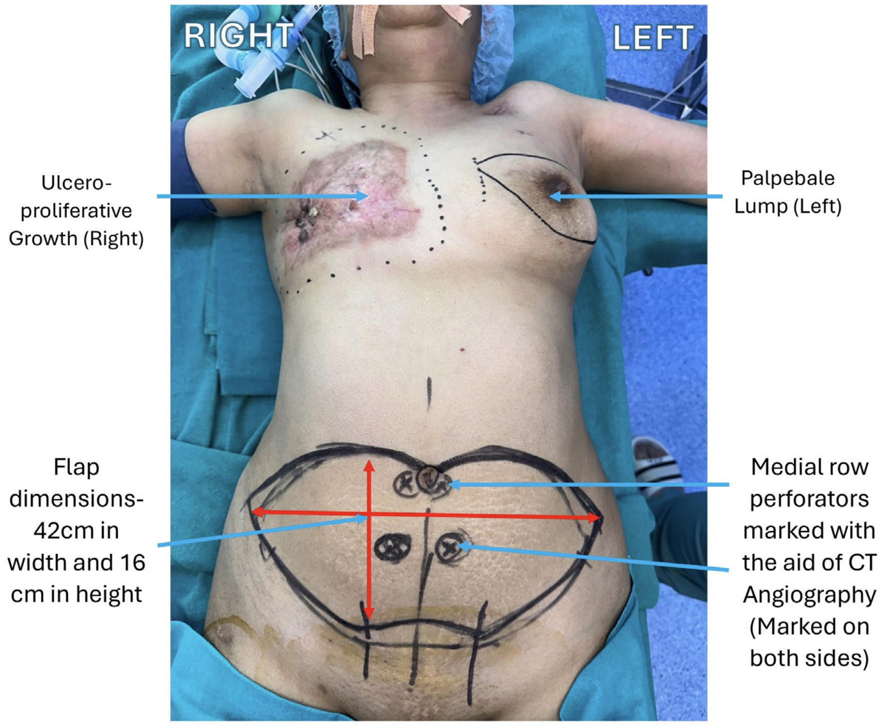

Figure 3. Preoperative markings for bilateral mastectomy and abdominal flap design. An ulceroproliferative lesion is visible on the right chest, and a palpable breast lump is outlined on the left. The lower abdomen is marked for harvest of a bipedicled deep inferior epigastric perforator flap. Bilateral medial row perforators, identified using computed tomography angiography, are indicated to ensure adequate vascular supply. The planned flap measures 42 cm in width and 16 cm in height. These markings guide flap design, perforator dissection, and chest wall reconstruction.

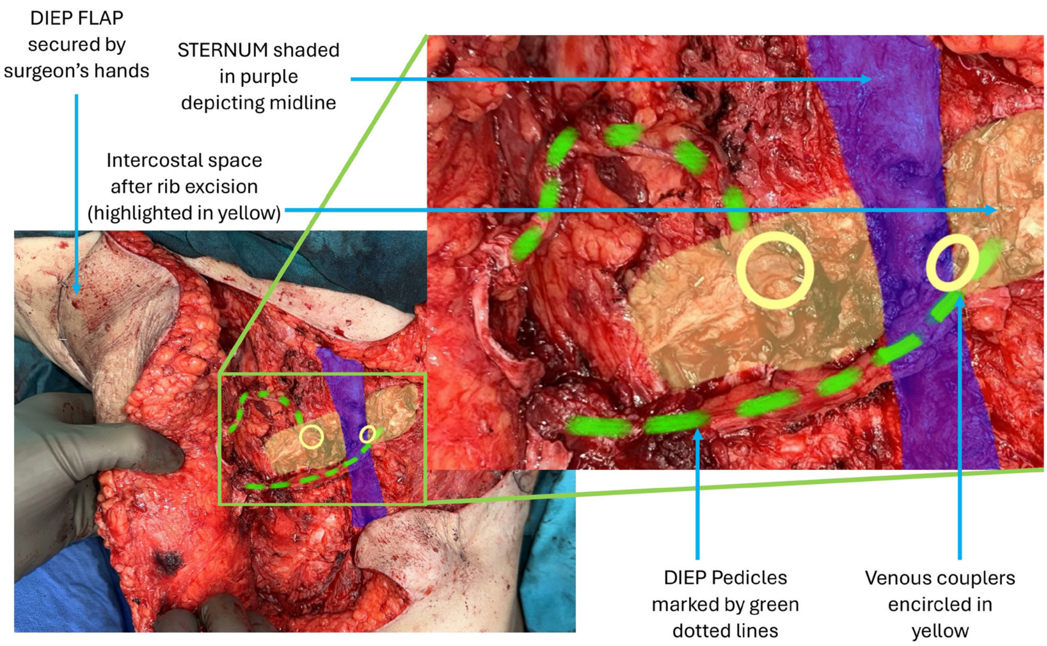

Figure 4. Intraoperative view of pedicle orientation and recipient site exposure, The deep inferior epigastric perforator flap is secured in position across the chest. The sternum, shaded in purple, marks the midline. Intercostal spaces exposed after rib resection are highlighted in yellow. Vascular pedicles are traced by green dotted lines. Venous couplers, marked by yellow circles, correspond to the sites of venous anastomosis.

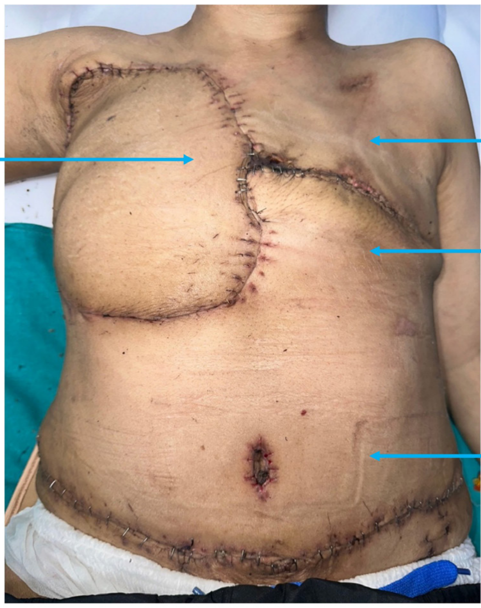

Figure 5. Postoperative appearance two weeks after bipedicled deep inferior epigastric perforator flap reconstruction. The anterior torso shows stable flap inset and well-healed mastectomy skin flaps. A small area of delayed healing is noted at the T-junction but resolved without intervention. The abdominal donor site demonstrates complete closure without dehiscence or other complications.

angiography and the abdominal wall pinch test confirmed sufficient perfusion across the donor site. To preserve native vascular integrity, lateral segmental blood supply was maintained, and undermining was limited to only what was essential. These intraoperative strategies minimized the risk of ischemia. Additional perfusion from the lateral intercostal and subcostal arteries contributed reliable collateral flow, supporting the viability of the remaining abdominal wall and contributing to a favorable reconstructive outcome.

Recipient Vessel Rationale

Bilateral IMAs were selected as recipient vessels to provide robust and symmetrical vascular inflow to the bipedicled flap. Their anatomical trajectory allowed tension-free pedicle alignment and optimal flap orientation, while preserving the LD muscle as a contingency option in the event of flap compromise. The IMAs were further favored due to their consistent caliber, reliable positioning, and technical ease of microvascular anastomosis. Although alternative recipient vessels such as the thoracodorsal and lateral thoracic arteries were evaluated, they were ultimately excluded because their anatomical orientation and limited reach were not well suited to the geometric requirements of a large bipedicled flap.

Technical Considerations and Procedural Complexity

The bipedicled DIEP flap is inherently more complex than either the LD or unilateral DIEP flap due to the requirement for bilateral microvascular anastomoses and meticulous bilateral perforator dissection. This increased technical demand typically extends operative time by one to two hours. However, prolonged operative duration does not necessarily lead to extended hospitalization. Enhanced recovery protocols have enabled similar lengths of stay across flap types, generally ranging from four to six days [8]. In this case, the patient recovered uneventfully and was discharged on postoperative day five.

The additional surgical time reflects the complexity of bilateral IMA anastomosis and the precision required to achieve balanced and reliable flap perfusion. High-level microsurgical expertise is essential to prevent complications such as venous congestion and to ensure vascular integrity across the entire flap. As such, successful execution of this procedure hinges on rigorous preoperative planning and advanced surgical proficiency.

Patient Selection Criteria and Risk Considerations

Ideal candidates for bipedicled DIEP flap reconstruction include patients with massive chest wall defects following radical mastectomy, those requiring large-volume autologous breast reconstruction, and individuals with midline-spanning defects that cannot be adequately addressed using a unilateral flap. This approach is also appropriate in cases of locoregional recurrence requiring complex reconstruction, provided that bilateral perforator anatomy is favorable and confirmed on preoperative CT angiography [3].

CT angiography serves a critical role in mapping the number, caliber, and anatomical course of perforators, with particular attention to the identification of bilateral medial row vessels to ensure symmetrical and reliable flap perfusion. Strong, well-positioned perforators should be prioritized to obviate the need for fallback options such as muscle-sparing TRAM or conventional TRAM flaps, which are associated with increased donor-site morbidity and abdominal wall dysfunction.

Additional risk factors must be carefully evaluated during patient selection. Elevated body mass index (BMI >30), poorly controlled diabetes, and underlying cardiac comorbidities are all associated with increased rates of fat necrosis, delayed wound healing, and perioperative complications [9]. A particularly critical consideration is the long-term impact of harvesting bilateral IMAs on future cardiac interventions. In patients with known or suspected coronary artery disease, the use of IMAs may preclude their availability for coronary artery bypass grafting. Therefore, preoperative assessment must weigh the reconstructive benefits of enhanced flap perfusion against the potential compromise of future cardiac surgical options [10].

Comparison with Muscle-Based and Alternative Flaps

Compared with conventional muscle-based and regional flaps, the bipedicled DIEP flap offers several advantages in the reconstruction of extensive chest wall defects. TRAM flaps, which involve harvest of the rectus abdom-

Table 1. Comparative Analysis of Flap Options for Anterior Chest Wall Reconstruction[1]

Flap type	Tissue composition	Vascular supply	Flap design[2]	Donor site complications	Advantages	Limitations	Indications
Bipedicled DIEP Flap	Skin and subcutaneous fat	Bilateral perforators from deep inferior epigastric arteries	Bipedicled free flap	Abdominal hernia rate 1.26% [13]	Muscle-sparing; broad, well-perfused surface; avoids need for grafting	Technically demanding; requires bilateral perforator dissection and microsurgical anastomosis	Moderate-sized anterior chest wall defects; post-radiation reconstruction requiring well-vascularized, muscle-sparing coverage
Latissimus Dorsi Flap	Muscle or musculocutaneous flap	Thoracodorsal artery from subscapular artery	Pedicled flap (can be used as free flap)	Seroma formation up to 79% [16]; functional shoulder weakness, visible donor-site scarring, hematoma, temporary loss of upper limb strength	Ease of elevation; wide arc of rotation; substantial and customizable tissue volume; reliable vascularity; coverage of anterolateral and posterior chest wall defects; potential for free flap use	Limited volume in large defects; may require skin graft for full coverage	Anterolateral and posterior chest wall defects; intrathoracic dead space obliteration; cases requiring reliable pedicled coverage
TRAM Flap	Muscle and subcutaneous fat with skin paddle	Superior or deep inferior epigastric artery[3]	Pedicled or free flap	Abdominal wall hernia or weakness; complications including hernia and bulging reported at 9–24% [11,12]	Structural stability for small to moderate defects; coverage of large defects up to 40 cm [16]; optimal for longitudinal anterior chest wall reconstruction; wide skin paddle harvest; substantial tissue volume; robust and reliable soft tissue coverage	Bulky design may impair mobility; limited suitability in patients with prior abdominal surgery	Large anterior or anterolateral chest wall defects; longitudinal midline defects; reconstruction following mastectomy or sternectomy
Thoracoepigastric Flap	Skin and subcutaneous fat	Perforators from epigastric arcade or intercostal arteries	Pedicled flap	Minimal donor site morbidity	Local option; simple dissection	Restricted arc of rotation; limited surface area and perfusion reliability	Defects at the thoracoabdominal junction or lower chest wall; limited-arc perforator-based reconstruction in patients unsuitable for large flaps
Omental Flap	Adipose tissue (omentum)	Right, left, or bilateral gastroepiploic arteries	Pedicled flap	Harvest-related hernia (epigastric or ventral); wound dehiscence; potential respiratory compromise	Exceptional pliability; extensive reach across chest wall regions; large surface area; long pedicle; superior vascularity; adaptable to complex contours	Limited posterior reach; insufficient structural support; requires intra-abdominal harvest; often requires mesh or skin graft for durable coverage	Anterior and anterolateral defects; obliteration of intrathoracic space; reconstruction in radiated or infected fields

[1]This table highlights flap types deemed suitable for reconstruction of the extensive anterior chest wall defect in the present case. The selected options do not represent an exhaustive listing but reflect clinically relevant strategies for structurally challenging midline and anterolateral defects.
[2]All flaps are pedicled unless otherwise specified. The bipedicled DIEP flap is used as a free flap involving bilateral perforator dissection and microsurgical anastomoses.
[3]The TRAM flap may be based on the superior epigastric system when used as a pedicled flap, or on the deep inferior epigastric system when harvested as a free flap.
Abbreviations: DIEP, deep inferior epigastric perforator; TRAM, transverse rectus abdominis myocutaneous.

inis muscle, are associated with elevated rates of abdominal wall complications such as hernia and bulging, with reported incidences ranging from 9% to 24% [11,12]. In contrast, DIEP flaps preserve the rectus muscle, substantially reducing donor-site morbidity while maintaining abdominal wall integrity. Hernia rates as low as 1.26% have been reported following DIEP reconstruction [13].

LD flaps remain a reliable option for moderate-sized chest wall defects due to their consistent vascularity and arc of rotation. However, they frequently require skin grafting to achieve complete coverage, and the limited tissue volume may compromise long-term durability and aesthetic outcomes. By comparison, the bipedicled DIEP flap provides a broader and well-perfused surface area, enabling single-stage reconstruction without the need for secondary grafting.

Thoracoepigastric flaps offer thin, pliable tissue with minimal donor-site morbidity but are constrained by limited flap size and arc of rotation. Omental flaps are highly vascularized and beneficial in irradiated or contaminated fields. However, they require intra-abdominal access and often necessitate skin grafting, thereby increasing operative complexity and recovery burden.

Overall, the bipedicled DIEP flap demonstrates several distinct advantages. It enables tension-free reconstruction of extensive chest wall defects, preserves functional musculature, minimizes donor-site morbidity, and eliminates the need for secondary grafting. Table 1 provides a structured comparison of flap options commonly used for reconstructing large or complex chest wall defects. It highlights key differences in anatomical composition, perfusion reliability, donor-site impact, and procedural complexity [11–17].

Postoperative Recovery and Functional Outcomes

Clinical follow-up at three and six months demonstrated favorable outcomes. Flap viability was maintained, abdominal wall function was preserved, and no postoperative complications were noted. At the six-month evaluation, BREAST-Q scores indicated excellent patient-reported outcomes, with scores of 78 for breast satisfaction, 85 for psychosocial well-being, and 82 for physical well-being. These results are consistent with prior studies showing that muscle-sparing techniques, such as the DIEP flap, are associated with reduced donor-site morbidity and improved outcomes in physical function, body image, and psychosocial health when compared to muscle-based reconstructions [5,12,18].

Objective assessments corroborated these subjective findings. Physical examination and abdominal wall strength testing revealed no evidence of flap necrosis, hernia, or muscular weakness. These observations support published data reporting lower donor-site complication rates with DIEP flaps relative to TRAM and LD flaps [17]. The preservation of abdominal wall integrity highlights a key advantage of the bipedicled DIEP approach. By sparing the rectus muscle, this technique facilitates early mobilization, enhances functional recovery, and minimizes long-term morbidity, particularly in reconstructions requiring both substantial volume and durable coverage [5,13].

Although CT imaging was not routinely employed in this case, it remains a useful adjunct for detecting subclinical donor-site abnormalities. Incorporating such imaging into postoperative follow-up protocols may improve the objectivity of functional assessments and enable earlier identification of potential complications.

Study Limitations

This report presents a single case, limiting the generalizability of its findings. Anatomical and oncologic differences among patients can significantly influence surgical outcomes, and results should therefore be interpreted with caution. Although the six-month follow-up provides initial clinical insights, it does not allow for evaluation of long-term complications, including donor-site hernia, bulging, or functional deterioration. Longer-term monitoring, with imaging and objective functional assessments, is needed. The bipedicled DIEP flap procedure also poses challenges in clinical implementation, as it demands advanced microsurgical skills and extended operative time, which may not be feasible in resource-limited settings. In addition, the lack of direct comparison with other reconstructive options prevents evaluation of its relative efficacy. Future studies should involve larger patient cohorts, extended follow-up, and controlled comparisons to establish the broader clinical utility of this technique.

CONCLUSION

This case illustrates the utility of the bipedicled DIEP flap in reconstructing extensive anterior chest wall defects after mastectomy. Bilateral IMAs ensured reliable, symmetrical perfusion, while the LD muscle was preserved as a backup option. Strategic planning, including limited abdominal undermining and targeted perforator selection, allowed tension-free inset and minimized donor-site morbidity. The reconstruction achieved durable coverage with preserved abdominal wall integrity, functional restoration, and favorable aesthetics. These findings support the bipedicled DIEP flap as a dependable and muscle-sparing option for large-volume chest wall reconstruction.

ARTICLE INFORMATION

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