

## Reverse Abdominoplasty Combined with Pedicled Lattisimus Dorsi Flap in Thoracic Reconstructions: Case Presentation and Review Article

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### ABSTRACT

#### BACKGROUND

Thoracic defects especially following cancer eradications or injuries or post infectious complications are dilemma among caregivers. Regional flaps can be as safe-boats and one of them is tissues available from revers abdominoplasty.

#### CASE PRESENTATION

A middle age women with neglected breast cancer admitted with very extensive advanced infected tumor involved both breasts and even anterolateral right thorax. Following neo-adjuvant treatments, she underwent radical excision which resulted in huge skin defect of upper trunk. Despite use of large Lattisimus Dorsi flap, it required other source to cover, and that was done by reverse abdominoplasty without umbilical repositioning to cover both breasts defect. Second patient was a 50 years old women with recurrent phyllodes tumor of left breast, who had previously 2 operations and eventually she underwent similar surgery with umbilical repositioning to reconstruct.

#### DISCUSSION

Developments in reconstructive options in thorax oncologic surgeries, helped surgeons in operating rooms, but sometimes there are limitations to pass the challenge. Reverse abdominoplasty is a kind of aesthetic standard abdominoplasty in selected patients with upper abdomen fullness. Releasing scar in breast fold, can bring acceptable features after surgery. Many authors reported successful results on breast reconstruction or thoracic area coverage by this techniques.

#### KEYWORDS

Revers abdominoplasty; Lattisimus dorsi flap; Thoracic reconstruction

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## 1. INTRODUCTION

Chest wall tumors are not common, but breast cancer is the most neoplasia in thorax [1], which challenges surgeons to cover large defects in special instances. Neglected cancers or inflammatory tumors usually results in large structural, muscular, and even cutaneous defects to be reconstructed. Such defects can be replaced by adjacent tissues in most instances as various flaps.

Lattisimus Dorsi flap is an available choice in special chest wall reconstructions, with its limited dimension and transfer. Recurrent tumors require new options to improve successful reconstruction and one of these options is use of upper abdominal extra tissues. Rebello and Franco [2] illustrated reverse abdominoplasty as a new way of aesthetic contouring of the upper anterior trunk in 1972 and then used to bring up and cover thoracic defects, due to feasibility.

So, we improved our reconstructions by combining Lattisimus Dorsi flap and reverse abdominoplasty to fill extremely large chest wall defects in absence of other traditional flap sources, and here present two operated cases.

## 2. CASE PRESENTATION

### Case 1

A middle age women with neglected breast cancer admitted with very extensive advanced infected tumor involving both breasts and even anterolateral right thorax (Figure 1).



**Figure1:** left. Patient with advanced breast cancer. Right. Excised specimen.

Following neo-adjuvant treatments, she underwent radical excision which resulted in huge skin defect of

upper anterolateral trunk. Despite use of large lattisimus dorsi flap, it required other source to cover, and that was done by reverse abdominoplasty without umbilical repositioning to cover both breasts defect extended to clavicle, and laterally posterior to posterior axillary line in chest wall (Figure 2).



**Figure 2:** Patient after skin closure with Lattisimus Dorsi flap in right breast and rolled extra skin in left side.

### Case 2

She was a 50-year-old woman with recurrent phyllodes tumor of left breast, who had previously 2 operations, unfortunately had rapid recurrence and she had to undergo chemotherapy with its problems. After 2 months she had infected malignant ulcer with mal odor (Figure 3).



**Figure 3:** Patient with recurrent phyllodes tumor.

So, we had to operate. First, radical tumor resection with 2 rib resection was done by another surgeon, and then we transferred a large pedicled Lattisimus Dorsi flap (Figure 4), and eventually she underwent reverse abdominoplasty with umbilical repositioning to reconstruct the remained huge defect (Figure 5).



**Figure 4:** Transferred muscle on the reconstructed rib cage.



**Figure 5:** Completed operation with new umbilicus.

### **3. DISCUSSION**

Radical tumor excision of anterior chest wall in advanced malignancies, requires complicated procedures. In such instances, often all subcutaneous tissues - including fat, muscle, or maybe bony rib cage- are excised and included free margin omits possible neighbor reconstructive choices. On the other hand, post-operative adjuvant treatments like radiotherapy, need a good replaced tissue instead of skin graft on granulation tissue.

Lattisimus Dorsi flap is an excellent choice, which is safe and easy to use. But donor site morbidity in large flap dimensions seems a significant disadvantage. Upper abdominal skin rolls are suitable and rational option. Abdominal cutaneous tissue are robust and nourished by three vasculature sources and provide different types of axial or random cutaneous flaps with different arc of rotations.

Moreover, elimination of extra skin rolls, especially in weight loosed patients can be attractive and results in aesthetically contoured body shape [3]. Yacoub et al. [3] believed in extended reverse abdominoplasty to reshape breasts by relay on well-nourished abdominal skin tissue and illustrated higher level of flap extension. That is right till we have to scarify more vessels to change umbilicus peripheral tissues. In such instances, maybe we find some ischemic tissues distally.

Atieh et al. [4] introduced their idea about using quilting sutures in reconstructive revers abdominoplasty. This is a good point of view in abdominoplasty procedures which can eliminate seroma collection. But, our previous experiences in large skin defect repairs, demonstrates upper limit of abdominal flap transfer is not more than 3<sup>rd</sup> intercostal space and the more up lifting of reverse abdominal flap, the more wound dehiscence and flap necrosis. Secondary operations of necrotic abdominal flaps are really difficult to manage. If someone harvests more cutaneous tissues to transfer, quilting sutures seem not to be safe.

Pantelides et al. [5] suggested reverse abdominoplasty in central thorax tumor excisions to cover defects. They confirmed robust upper abdominal tissues provide possibility of reconstruction of large defects in central part of anterior thoracic area.

As mentioned previously, reverse abdominoplasty as an aesthetic body contouring procedures, attracted consideration of reconstructive surgeons to cover oncoplastic fields. This is according to robust tissues of upper abdomen in elderly with extra skin folds. This procedure is done sole or in combination with other reconstructive surgeries. We notified in patients without lower abdomen incisions, it is possible and safe to incise umbilicus and change the position of umbilicus to help transfer more tissues to upper points. This is good but has limitations. On the other hand, tensioned wound closure

is usually prone to fail. So, we recommended strongly to add another reconstructive procedure to overcome delayed complications and our suggestion is mostly Lattisimus Dorsi flap in large skin defects.

#### **4. CONCLUSION**

Reverse abdominoplasty combined with Lattisimus dorsi flap can be a safe and suitable choice of reconstruction in large oncoplastic eradications, though, patients feel better in their new body shape.

#### **REFERENCES**

1. di Summa PG, Schaffer C, Tay SK et al. (2019) Chest resurfacing with a reverse abdominoplasty flap for invasive breast cancer recurrence. *Case Reports in Plastic Surgery and Hand Surgery* 6(1): 51-54.
2. Halbesma GJ, van der Lei B (2008) The reverse abdominoplasty: A report of seven cases and a review of English-language literature. *Annals of Plastic Surgery* 61(2): 133-137.
3. Yacoub CD, Baroudi R, Yacoub MB (2012) Extended reverse abdominoplasty. *Revista Brasileira de Cirurgia Plástica* 27(2): 328-332.
4. Atiyeh B, Dibo S, Abbas J, et al. (2016) Tensioned reverse abdominoplasty for reconstruction of large post-mastectomy defects. *Revista Brasileira de Cirurgia Plástica* 31(2): 252-256.
5. Pantelides NM, Mondal D, Wishart GC, et al. (2013) Reverse abdominoplasty: A practical option for oncological trunk reconstruction. *Eplasty* 13: e2.