

# The Rhomboid Flap for Immediate Breast Reconstruction Post Quadrantectomy and Axillary Dissection

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## ABSTRACT

*The authors describe their experience in immediate breast reconstruction using the Limberg rhomboid flap post-quadrantectomy and axillary dissection. They report the technique in 200 cases, operated from June 97 to June 2000, describing the methodology used, indication of the best quadrants, results and complications.*

## INTRODUCTION

Plastic surgery has become a fundamental part of breast cancer treatment. An interdisciplinary approach provides the patient, undergoing breast reconstruction or repair, an enhanced quality of life<sup>(5)</sup>.

Quadrantectomy, understood as the resection of a breast quadrant, followed by axillary dissection and postoperative radiotherapy, has shown a prognosis similar to mastectomies. Its main objective is maximum local con-

ontrol, with minimum mutilation. It was widely promoted by Veronesi in the eighties and in many cases, its use is clearly indicated<sup>(7)</sup>.

There are frequently three types of breast deformities secondary to quadrantectomies, classified by Berrino as Types I to III: deviation or distortion of the nipple-areola complex, tissue deficiency (gland and/or skin) and breast retraction, respectively<sup>(1)</sup>. Various techniques have been recommended for immediate or late repair, from primary suture to skin glandular or myocutaneous flaps<sup>(2, 3, 4, 6)</sup>.

In the present study, the authors present their experience with immediate breast repair with a rhomboid skin flap, compare the latter with previously used meth-

ods and describe the extent of the corrections obtained.

## PATIENTS AND METHODS

Two hundred patients with an average age of 52 years were submitted to immediate breast repair post quadrantectomy and axillary dissection, from June 97 to June 2000. A rhomboid, cutaneous-glandular or cutaneous-fat projected flap, similar to a Limberg flap, was used.

The surgical procedure consists of identifying the projection of the tumor on the skin, then marking a diamond around the lesion, whose margins are determined by the specialist. Afterwards, the rhomboid flap to be used is also marked (Fig. 1). Skin and subcuta-

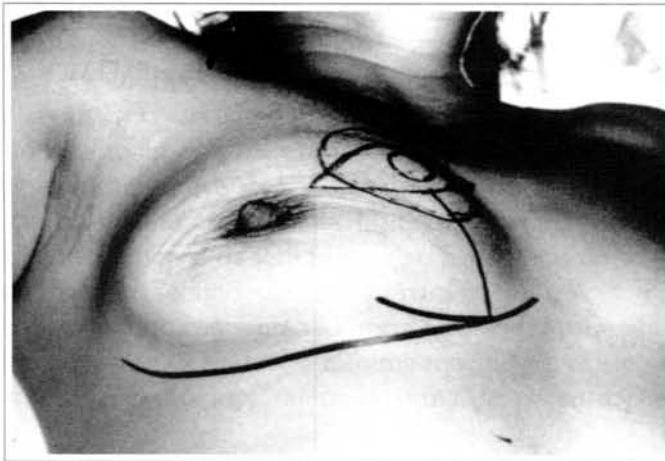


Fig. 1 – Delimitation of the projection of the tumor on the skin, diamond shaped marking around the lesion and the rhomboid flap, with a breast-oriented pedicle.

*Fig. 1 – Delimitação da projeção do tumor na pele, marcação perilesional em losango e do retalho rombóide, com pedículo voltado para a mama.*

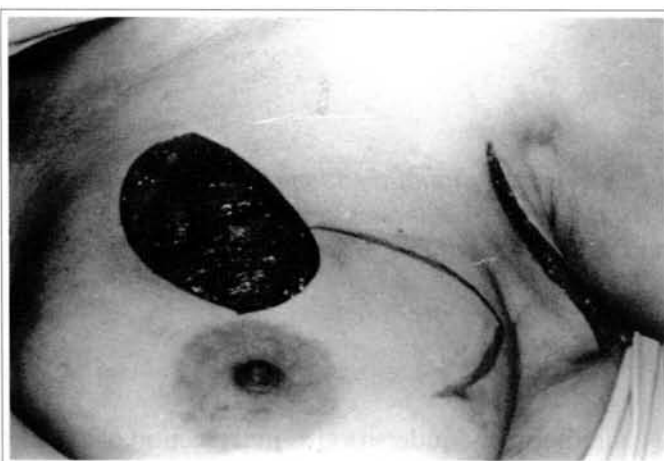
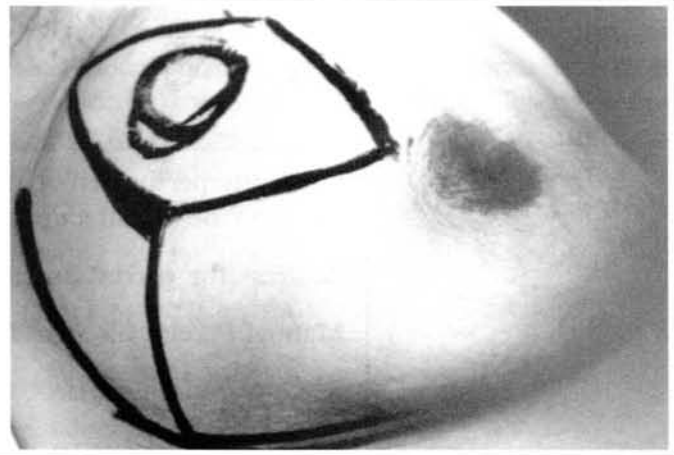


Fig. 2 – Resected tumor and post-quadrantectomy resulting area.

*Fig. 2 – Tumor ressecado e área resultante pós-quadrantectomia.*

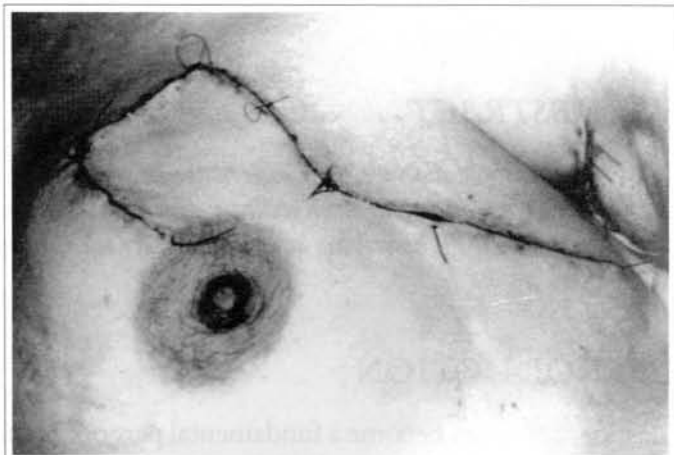


Fig. 3 – Positioned and sutured flap.

*Fig. 3 – Retalho posicionado e suturado.*

neous tissue are incised to the muscular plane and detachment is performed to allow complete rotation (Fig. 2). Synthesis consists of fixing the flap base to the subcutaneous tissue of the upper margin of the area to be repaired in order to better support the flap and skin suture (Fig. 3).

The tumors resected were located in the following quadrants: superior external (45%), inferior external (25%), superior internal (15%), and inferior internal (15%). Axillary emptying was performed with a single incision in the tumors of external quadrants and with a combined incision in the internal quadrant tumors.

All cases were drained with a continuous aspiration drain, which was left in for an average period of 8 days.

Patients generally began radiotherapy in the third post-operative week.

## RESULTS

The rhomboid flap allows the breast contour to be maintained in practically all cases, attenuating or even avoiding secondary deformities (Fig. 4).

The patient's subjective assessment of the aesthetic aspect is always positive.

Tissue redundancy is commonly observed at the anterior axillary line for two reasons: delivery of the latissimus dorsi from the thoracic wall, during surgery, and to late lymphatic edema caused by axillary emptying. The alteration can be attenuated with one of

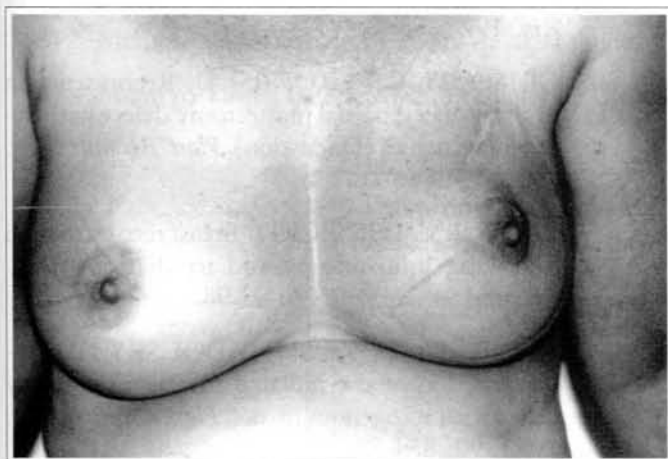


Fig. 4 – Later results, with acceptable symmetry.

*Fig. 4 – Resultado tardio, com simetria aceitável.*



Fig. 5 – Correction of skin redundancy at the anterior axillary line by rotating one of the flap segments.

*Fig. 5 – Correção da redundância de pele à altura da linha axilar anterior pela rotação de um dos segmentos do retalho.*



Fig. 6 – Post radiotherapy scar aspect.

*Fig. 6 – Aspecto cicatricial pós-radioterapia.*

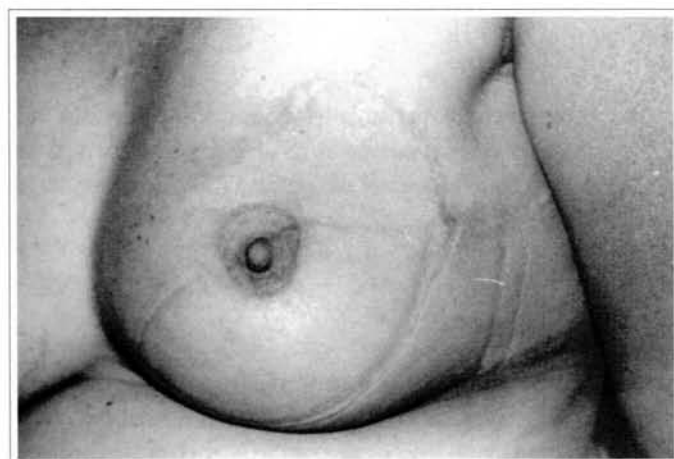


Fig. 7 – Scar detail.

*Fig. 7 – Detalhe da cicatriz.*

the segments of the rhomboid flap (Fig. 5).

Although the scar is large, it is a good quality scar in the long term, possibly due to postoperative radiotherapy (Figs. 6 and 7).

The mammary groove is not distorted in the external quadrants, although there is a slight constriction of the groove in relation to the internal inferior quadrant. It can be corrected later, without technical difficulties.

The author prefers to have a contralateral balance at a second stage, as the degree of post radiotherapy mammary reduction is quite variable.

## CONCLUSION

Conservative surgery has been increasingly employed and the methods used are aesthetically-oriented<sup>(2-6)</sup>.

The author has had a great deal of experience using procedures such as primary suture, zigzag plastic, gland flaps and muscular and/or myocutaneous latissimus dorsi flaps, as recommended by Slavin<sup>(1,6)</sup>.

The rhomboid flap has been demonstrated to be very versatile because it is easily performed, it preserves the breast contour, and because of early and long term results. It has been the option for immediate repairs.

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