

SPLIT-THICKNESS SKIN GRAFTING IN ONCOLOGIC SURGERY OF THE LIMB – A CASE REPORT

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SPLIT-THICKNESS SKIN GRAFTING IN ONCOLOGIC SURGERY OF THE LIMB – A CASE REPORT (Abstract): Large excision of tumor soft tissues is often complicated by infections, seriously undermined blood supply and venous drainage, tendon exposure, functional impairment. We report the case of a 67 years old woman admitted for a sarcoma of the right forearm occurring 14 years after a modified radical mastectomy and adjuvant chemotherapy for carcinoma of the right breast. A wide excision of the lesion and split-thickness skin graft was performed with uneventful recovery and satisfactory healing of the graft tissue and functional aspect of the arm. In the last few decades, there has been a search for solutions in tissue repair without need for auto grafts, such as biological substitutes that could repair or improve the function of tissue. In case none of these products are available, auto graft is a good choice and it may be commonly used in the surgical treatment of postoperative soft tissues defects after oncologic surgery. **Keywords:** SKIN GRAFT, MULTIPLE NEOPLASM, LYMPH EDEMA

Direct closure is the reconstruction of choice for surface soft tissue defects. Major causes of recipient site morbidity after skin grafting a postoperative defect of the upper limb are lack of skin graft take to complete loss, functional impairment, infection, hematoma/ seroma and paresthesia. Long-term cosmesis remains poor. In the last few decades, there has been a search for solutions in tissue repair without need for auto grafts. This has produced a development of biological substitutes that could repair or improve the function of tissue.

The use of these products enlarges the spectrum of therapeutic resources available

for the treatment of skin lesions, thereby changing the approach to many diseases (1). In case none of these products are available, auto graft is a good choice and it may be commonly used in the surgical treatment of postoperative soft tissues defects after oncologic surgery.

CASE REPORT

A 67 years old woman was hospitalized in our clinic for a swelling of the right forearm that appeared 9 months ago.

She has a history of modified radical right mastectomy (Madden operation) 14 years ago for infiltrating ductal carcinoma

of the right breast- T₂N₀M₀; followed by 6 cures of chemotherapy and antiestrogen treatment (Tamoxifen) for 5 years; no radiotherapy was commenced. She also declares the presence of mild lymphedema of the upper limb in the last 8 years.

The patient noticed the gradual increase in size of the swelling described and complains of non-radiating, moderate burning-like pain of the area; further on she noticed the appearance of several nodules along the anterior face of the forearm that ulcerated in the last 6 weeks. An ultrasound and CT scan of the forearm performed on outpatient basis 6 months ago revealed chronic cellulite; therefore she received a topical

anti-inflammatory treatment. The local physical examination when presenting in our service showed the presence of mild lymphedema of entire right arm and purpuric spots from the elbow to the wrist. On the anterior face of the forearm, a 12 × 8 cm purple area with multiple nodular lesions, tending to confluence, some of them ulcerated, with surrounding erythema and induration was noted; apparently, on clinical examination, the subcutaneous tissue of the described area was infiltrated (fig 1) We did not find any motor, vascular (peripheral arteries) or sensitivity changes from the right shoulder joint to the right fingers.



Fig. 1. Lesion aspect on admission

The actual blood tests showed no modifications, abdomino-thoracic CT scan and bone scintigraphy did not reveal any pathological modification related to the current condition or to the breast cancer from her history. PET scan and MRI scan were not available.

The anatomopathological examination on the tissue prevailed by biopsy showed

conventional high-grade angiosarcoma and microscopically examination exhibited a mixture of vasoformative features, including intravascular infiltration tumoral vascular lumen, papillary projection into the lumen of the vessels; therefore, given the history, symptoms and pathology, our first diagnosis was angiosarcoma developed on upper limb lymphedema. But the

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great dilemma was brought by the immuno-histochemical tests showing specific aspects of Kaposi sarcoma (positive CD₃₁, CD₃₄ and HHV₈), without succeeding a final, reliable differentiation between the

two forms of sarcoma. Under these circumstances, an oncologic wide excision of the lesion and free split skin graft in tied over manner was performed under general anesthesia (fig 2).



Fig. 2. Excision of the cutaneous lesion (a) and aspect of the skin graft on the 5-th postoperative day (b)

The immediate postoperative recovery was uneventful with satisfactory healing of the graft tissue and functional aspect of the arm and the patient was discharged 8 days postoperatively in order to initiate oncologic treatment recommended by the oncology board. On the 3rd week postoperative the patient was one again hospitalized for a local relapse represented by the same aspect cutaneous nodules on the edge of the graft. A local re-excision was performed; even if there was a great probability that the lesion would invade the antebrachial aponeurosis, we did not excise it because of the risk of harming the radial vessels which would not bring the patient any benefit considering the disease's fulminant evolution. We used the same type of skin graft to cover the defect with graft application after receiving a granular bed on the recipient site. Although the patient begins

chemotherapy, there were no postoperative complications or delay in maturation of the graft. Evolution of the patient was unfavorable due to the emergence of many skin nodules along the upper limb and lung metastases, the patient passing away in 8 months after surgery.

DISCUSSION

Large excision of tumoral soft tissues is often complicated by infections, seriously undermined blood supply and venous drainage, tendon exposure, functional impairment. That is why repairing a postoperative skin defect continues to be a challenging problem for plastic surgeons. Direct closure by skin grafting may not be suitable for larger defects due to extensive tension. A variety of techniques are available for achieving tension free closure, including split-thickness skin grafts, skin

flaps, and internal or external tissue expansion (2).

Difficulty of the case is enhanced by diagnostic ambiguity; there are two serious diseases entering into discussion. First, with patient's symptoms and history giving a perfect match is the Stewart Treves syndrome: angiosarcoma, a rare and aggressive tumor with a very poor prognosis associated with lymph edema occurred after ipsilateral mastectomy for breast cancer. Concerning the surgical treatment, there are studies that show that there is no significant difference in survival comparing those initially treated with wide excision and those treated with amputation (3).

Giving the aggressive nature of the tumor, high rate of local recurrence, and tendency for early and multiple metastases, long-term survivorship is rare with a median survival of 2.5 years after diagnosis, most patients dying within 2 years from metastatic disease (4). Although liver and bone metastases may occur, spread of disease to the lung or chest wall is often the cause of death in patients with Stewart-Treves syndrome.

We consider that, even if there is no evidence of distant metastases at diagnosis, the neoplastic disease is advanced because of the long time elapsed between the onset of the disease and the time of diagnosis. Surgical treatment can be preceded or followed by radiation therapy. Locally advanced tumors or metastatic forms can be treated with mono or polychemotherapy, on systemic or local administration.

Cases with good response using courses of intra-arterial mitoxantrone (MX) and paclitaxel (PTX) are reported (5, 6). Knowing that long-term survivorship is rare with a median survival of 2.5 years after diagnosis, most patients dying within 2 years from metastatic disease(4), wide oncologic excision with skin graft will give the patient a better quality of life than amputation. Moreover, if the final immunohistochemical test would have shown the tumor is Kaposi sarcoma, knowing that it has a better prognosis than angiosarcoma, the large excision with this type of skin graft would give the patient a satisfactory local healing and comfort.

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