

Nipple reconstruction with skate flap technique after central lumpectomy in Paget's disease located on the nipple

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ABSTRACT

Paget's disease of the breast is a pathological condition that causes long-term complaints in the nipple-areola complex (NAC). It is characterized by eczematous changes in the nipple. The underlying breast lesion is usually ductal carcinoma in situ, but invasive cancer can also be found. Since the clinical manifestations are very similar to many common skin rashes that a woman has experienced in her life, the diagnosis can easily be overlooked or misdiagnosed. While the traditional treatment for Paget's disease is mastectomy; in appropriate cases, the use of radiotherapy in combination with breast-conserving surgery comes to the fore. It is aimed to present the treatment process of our patient who was admitted with a complaint of a non-healing nipple wound for a long time and was diagnosed with Paget's disease of the breast as a result of breast-preserving surgery. Skate flap technique was preferred for nipple reconstruction after central lumpectomy, and there was no loss of projection after radiotherapy. NAC is an important anatomical part of the breast and its cosmetic appearance is significantly affected in the case of surgical excision. For this reason, in cases requiring central lumpectomy, efforts should be made for nipple reconstruction.

Keywords: Mammoplasty, nipple, Paget's disease, reconstructive surgical procedures.

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INTRODUCTION

Nipple reconstruction after skin-conserving mastectomy or nipple-areola complex (NAC) excision is the last critical process to restore symmetry with the opposite breast and achieve the natural condition of the affected breast. The patient satisfaction rate after NAC reconstruction is at the level of 72–88%.^[1] To achieve symmetry and natural appearance, the timing of the surgery and the technique to be applied is important. Many surgeons prefer to perform intradermal tattooing (tatuage) by performing nipple reconstruction with various flap techniques. It is recommended to wait for 3 months for regress inflammation and provide breast stabilization for repair. The biggest problem after NAC reconstruction is loss of nipple projection over time.^[2] It has been proposed to apply various injectable fillers to solve the problem, but the desired level of success has not been achieved.^[3] Tatuage is the most commonly used procedure for areolar reconstruction today, as there is no morbidity in the donor area, and it is performed 6–8 weeks after nipple reconstruction.^[4]

Sir James Paget^[5] reported in 1874 that as a result of his observation on 15 women with an eczema-like rash with yellowish exudate on the nipple, this chronic ulceration turned into breast cancer within 2 years. Paget's disease of the breast accounts for 1–3% of breast cancer subtypes.^[6] The incidence is highest between the ages of 50 and 60, and it is gradually decreasing.^[7] A scaly, ulcerative, or vesicular chronic dermal abnormality that begins on the nipple and then spreads to the areola is a stimulant. It is usually one-sided.^[8] The average duration of symptoms and signs before the histological diagnosis is 6–8 months.^[9] Diagnostic examination should be performed both for existing clinical findings and for other areas of the breast. The incidence of underlying breast cancer is 85–88%. The breast mass or mammographic abnormality associated with this condition cannot be usually observed.^[10] There is a palpable breast mass in 50% of the cases and the mass is often 2 cm further from the NAC. It is associated with mammographic abnormality without a palpable mass in 20% of cases; a palpable mass is not linked to mammographic abnormality or parenchymal breast cancer in 12–15% of cases. There is no underlying mass or mammographic abnormality, while occult ductal carcinoma in situ (DCIS) is present in 12–15% of cases.^[11]

CASE REPORT

Written and verbal consent was obtained for the case report.

A 65-year-old female patient presented with complaints of discharge from the left nipple, which did not heal for a long time, accompanied by bleeding at certain periods (Fig. 1). No microcalcification or mass lesion was observed in the mammography. Ultrasonography revealed irregular areas in the posterior part of the left areola. Breast adenoma was considered in the foreground, but the necessity of its excision was reported. It was decided not to perform a sentinel lymph node (SLN) biopsy due to the absence of pathological lymph nodes in the axilla. Due to the patient's request, his NAC was excised and frozen was sent for examination. In the frozen section, it was stated that the excised piece was 4x3x2 cm and the surgical borders were clean (Fig. 2a). Nipple reconstruction was also performed, considering that the creation of NAC following the surgical intervention improved the cosmetic outcome and that many patients scientifically wanted this

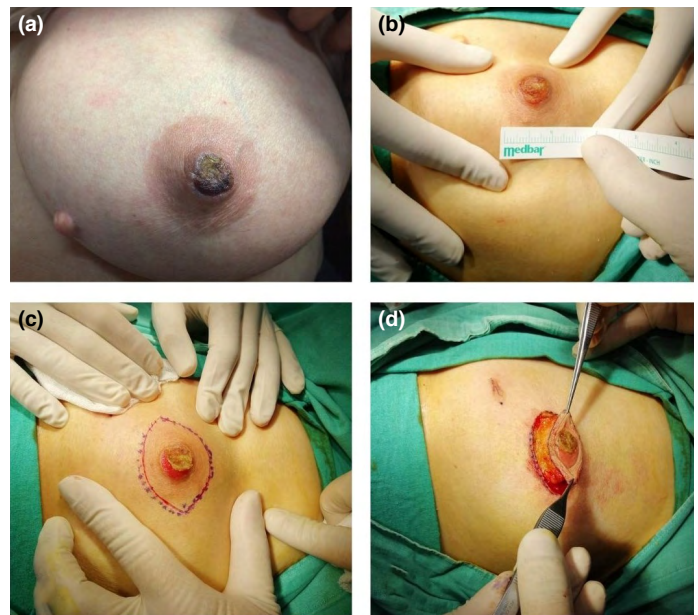


Figure 1: (a) Paget's disease of the breast with nipple involvement, (b) determining the size of the nipple-areola complex, (c) determination of surgical borders, and (d) excision.

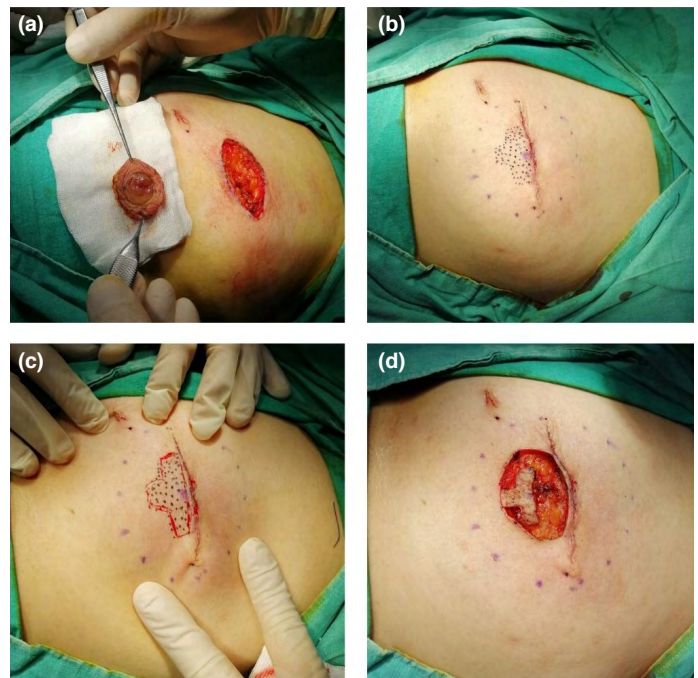


Figure 2: (a) The image of the excised nipple-areola complex, (b) primary repair of the surgical field after excision, (c) a marking made for the preparation of the skin skate flap suitable for reconstruction, and (d) getting the flap ready for proper repair.

intervention. The most popular technique for NAC reconstruction is the method that combines the tattoo procedure with a small triangular skin flap, which is often called a skate flap (Fig. 2). The location of the areola is drawn, while the patient is standing before the operation for check the bilateral symmetry of the NAC, and reconstruction is usually performed in the second stage under local anesthesia. Tatuage



Figure 3: (a) Approximation of the flap on itself with a 5/0 absorbable monofilament suture material, (b) final view of repair, and (c) nipple after radiotherapy.

is applied before the reconstruction of the nipple and the color of the areola and nipple is obtained in this way. Our patient did not approve tattooage and secondary surgical intervention. The lower border of the skate flap is drawn to the incision line. The formed skin flap is folded on itself and sutured from both flap wings with a 5/0 absorbable monofilament material (Fig. 3). In the definitive pathology report of our case, it was reported that there was DCIS in the nipple concomitant with Paget's disease. It was reported that the DCIS area was solid type, located at grade 2, contained comedo type necrosis, and was located 3 mm away from the nearest surgical border. Estrogen, progesterone receptors (PR), and cErb2 were found to be negative. At the multidisciplinary oncology meeting, it was decided to administer radiotherapy to the patient. In the 6th month outpatient follow-ups after radiotherapy, no loss of projection on the nipple was observed.

DISCUSSION

In case of non-healing nipple discharge and ulceration for a long time, Paget's disease should be considered. The differential diagnosis should include benign (eczema, contact dermatitis, radiation dermatitis, and nipple adenoma) and malignant pathologies (Bowen's disease, basal cell carcinoma, and superficial spreading malignant melanoma).^[12] Punch biopsy is often preferred in tissue sampling and this may cause the diagnosis to be missed. The observation of intraepithelial adenocarcinoma cells (Paget's cells) that occur histologically alone or in small groups in the nipple epidermis is diagnostic. CK7, CK20, S100, CEA, HER 2, estrogen receptor (ER), and PR from the immunohistochemical methods are studied. While ER and PR are negative in half of the cases, HER2 is positive in 84–96% of the cases and is associated with a poor prognosis.^[13] Bilateral mammography should be performed to identify an associated mass and exclude common calcifications or synchronous cancers that may prevent breast-conserving surgery. The punch biopsy performed in a female patient who presented with complaints of nipple discharge and non-healing ulceration for 8 months was insufficient for diagnosis. Nipple adenoma was considered in also the pathology consultation in our hospital of the sample taken. After pathological examinations incompatible with clinical manifestations, an operation was decided and the diagnosis could only be made as a result of NAC excision. Our case was in the sixth decade, similar to the literature, the lesion was in one breast (left) and

the complaint had been present for more than 6 months. No distinctive findings were observed in the mammography performed for diagnosis. The presence of concomitant DCIS was understood after surgery.

The standard surgical treatment of Paget's disease of the breast is simple mastectomy. At the same time, the widespread use of breast-conserving surgery for breast carcinoma has led to its use for Paget's disease. The lack of adequate prospective randomized trials has not clarified the optimal surgical treatment. Most Paget's patients do not have a palpable mass or mammographic abnormality, but there is an underlying carcinoma. Although most of these are DCIS, 25–30% of cases have invasive cancer.^[14] Local recurrence and disease-free survival rates are similar to DCIS. In patients without a palpable mass or mammography abnormality, it is a reasonable option to perform a central lumpectomy by providing surgical borderline negativity and administer radiotherapy to the whole breast. Interventions applied to one breast are important risk factors for affecting symmetrization and cosmetic appearance. To obtain optimum results, a certain period of time is usually waited after surgical intervention and reconstructive interventions are performed at the end of this period. When such an opportunity is not available, the right surgical technique should be selected by considering the problems that may occur. Although the projection loss rate was high, nipple reconstruction was performed simultaneously with the help of skate flap technique according to the request of our patient, and nipple projection loss was not experienced after radiotherapy.

The risk of axillary metastasis in Paget's patient series is higher in women with concomitant invasive cancer and a palpable mass. The axillary approach is similar to invasive breast cancer. In patients with DCIS, axillary examination is not required if the disease is not common enough to require a mastectomy. If a mastectomy is planned and an invasive component has been detected in the last pathological evaluation, a SLN biopsy is performed. There is some debate about the necessity of axillary evaluation when breast preservation is planned for patients without concomitant mass and clinically negative axillae. Given that the incidence of DCIS alone is high in these patients, SLN biopsy may not be necessary. A SLN biopsy was not performed due to the absence of a palpated lymph node and radiologically suspicious axillary lymph nodes. A second surgical intervention was planned with the detection of invasive cancer.

The prognosis of Paget's disease depends on the presence of an underlying invasive ductal carcinoma or axillary lymph node metastasis. For patients with palpable mass and DCIS, 5-year disease-related survival ranges from 37% to 43%, while in patients without a palpable mass and only DCIS, this rate is 90–100%.^[9]

CONCLUSION

The NAC is an important part of breast tissue. After each surgical intervention requiring excision of the NAC, maximum efforts should be made to reconstruct it. In this way, the success of the cosmetic appearance to be obtained will increase, and patient satisfaction will be directly affected.

Statement

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