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Case report

Breast conserving surgery for breast cancer involving the nipple

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Abstract

We present two cases of invasive breast carcinoma with involvement of the dermis and epidermis of the nipple areolar complex (NAC), which were treated with an immediate breast reconstruction.

Oncoplastic techniques were utilised in both cases: Latissimus Dorsi Mini Flap in the first and therapeutic reduction mammaplasty in the second.

Both methods were used to fill the defect and also to recreate the NAC. We believe these techniques have an expanding role in the repertoire of surgical options for treating breast carcinoma.

Keywords: Breast carcinoma; Breast conserving surgery; Cancer in nipple arealar complex; Latissimus Dorsi Flap; Mammaplasty

Introduction

Central tumour of the breast has traditionally been an indication for mastectomy. Breast conserving surgery (BCS) has been attempted by way of wedge excision of the nipple areolar complex (NAC), which may result in an oncologically safe option but usually leads to unacceptable cosmetic appearance, with loss of both volume and projection of the breast.[1,2]

Oncoplastic BCS, a term coined by Audretsch,[3] aims to achieve tumour free excision margins without cosmetic deformity. Techniques include transferring adjacent breast parenchyma (local dermoglandular flaps) for moderate volume replacement.[1] For larger defects, breast reduction mammaplasty is advocated if the breasts are sufficiently large.[4] The Latissimus Dorsi Mini Flap (LDMF) is a good volume replacement technique that can compensate for over 25% of lost breast volume.[5,6]

We present two cases of breast carcinoma involving the NAC, that were treated with breast conservation therapy and immediate breast reconstruction. These two case reports illustrate the role of mammaplasties and LDMF in Oncoplastic BCS of carcinomas involving the nipple.

Methods

Case 1

Fifty-four-year old female presents with 10 weeks' history of superficial lump 3 o'clock of the left areola. Mammogram and ultrasound scan were benign (X3, U1) but core biopsy under LA showed Grade I intraductal invasive carcinoma. All surgical options were offered.

Surgery was performed within 2.5 weeks: left wide local excision (WLE) and axillary lymph node clearance (ALNC) with immediate Latissimus Dorsi mini flap (LDMF) reconstruction to replace volume loss. A small overlying skin paddle from the flap was used to substitute the NAC (Fig. 1).

Histology showed a 16 mm Grade I invasive non-special type (NST) carcinoma, lymph node (LN) negative (0/4), no vascular invasion (VI) and oestrogen receptor (ER) positive (Fig. 2). The resection margins were: superior 13 mm, medial 15 mm, inferior 5 mm, lateral 2.5 mm, posterior 20 mm and anterior 4 mm. Anteriorly (skin and nipple), the carcinoma infiltrated the stroma just under the nipple epidermis but did not actually involve the epidermis.

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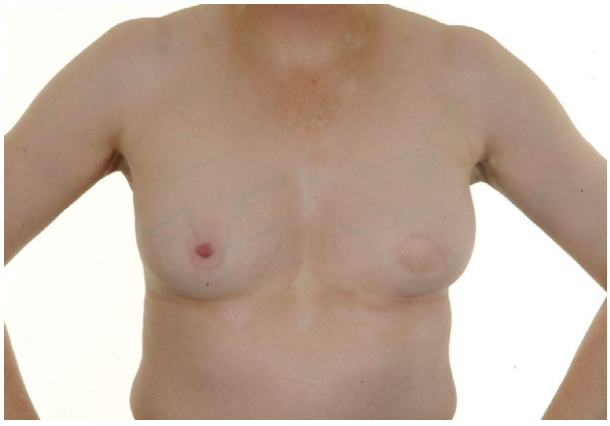

Fig. 1. Case 1 post-immediate Latissimus Dorsi Flap (LDF) reconstruction. NAC substituted with skin paddle from the DLF.

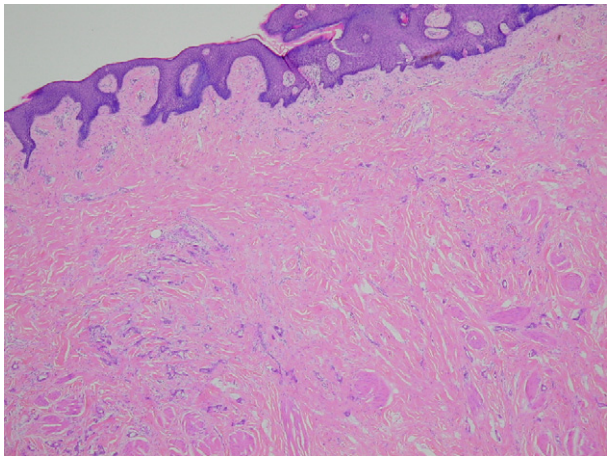

Fig. 2. Case 1 histology: Grade I invasive non-special type (NST) carcinoma.

Cavity shaves were taken (deep, lateral, superior, medial and inferior) smallest measuring $30 \times 25 \times 5\,mm^3$ and sent intraoperatively for frozen section and showed no evidence of carcionma in situ or malignancy. Further cavity shaves were also free of disease. The minimum was at the lateral resection margin at 7.5 mm (initial resection plus cavity shave).

Adjuvant radiotherapy and hormonal manipulation followed.

The WLE specimen weighed 58 g. Surgery time was 3.5 h. In-hospital stay was 5 days. The patient has been followed up for 2.5 years and is disease free. Initially, the patient had a custom made left nipple prosthesis, followed by a left nipple reconstruction and tattooing (Fig. 3).

Case 2

Thirty-nine-year old Caucasian female presents with 18 months history of left nipple 'eczema' (Figs. 4 and 5). Mammogram and USS negative (X1, U1) but core biopsy under LA showed a Grade II intraductal invasive carcinoma (Fig. 6). All surgical options were offered.

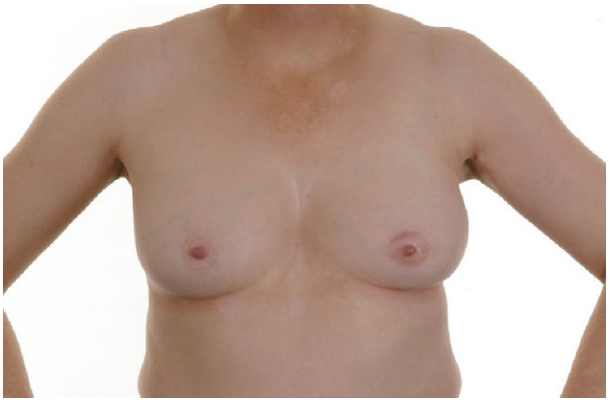

Fig. 3. Case 1 post-reconstruction: nipple reconstruction and tattoing.

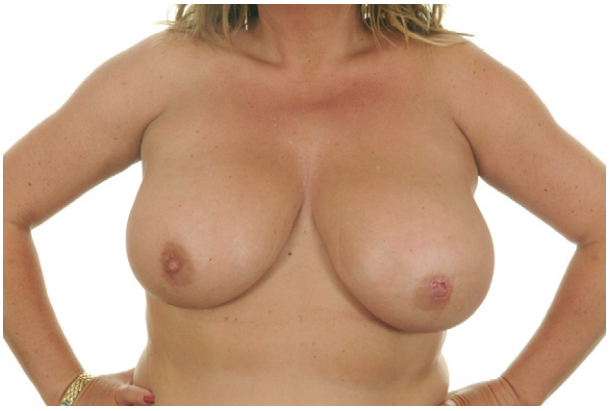

Fig. 4. Case 2 pre-operative picture of cancer invading left nipple skin.

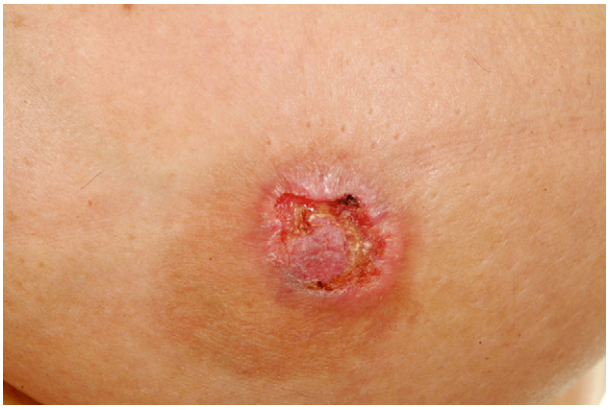

Fig. 5. Case 2 close-up picture of cancer invading left nipple skin.

Left BCS was performed 3 weeks later as an oncoplastic inferior pedicle breast reduction and left ALNC. A skin paddle from the primary pedicle was used to substitute the NAC (Fig. 7).

Wide excision of the carcinoma was achieved, with the WLE specimen weighing 596 g. The total breast reduction specimen weight was 1095 g on the left breast and 850 g on the right.