Figure 1 Fluoroscopic image of the docking site.

Figure 2 Arthroscopy of the docking site.

Figure 3 Use of the ArthroWand® to debride fibrous tissue at the bone end.

restricted access caused by the frame and poor soft tissue quality. We describe an innovative, arthroscopic technique to aid union at the docking site.

TECHNIQUE

The technique is performed when the docking site gap is ≤ 10 mm. The level of the docking site is located fluoroscopically (Fig. 1). Medial and lateral arthroscopy portals are created (Fig. 2) and the arthroscope is introduced into the docking site. Fibrous tissue is debrided from the bone ends using an ArthroWand® (ArthroCare UK Ltd; Fig. 3). Once the bone ends are visible, they are freshened using an arthroscopic burr. A fluid management system is used to maintain low pressure flow through the docking site. Bone graft or synthetic graft substitute may be applied percutaneously in cores using a trephine.⁵ Bone transport continues thereafter and union at the docking site is achieved by compression.

DISCUSSION

It is postulated that a fibrous cap develops at the bone ends during the transport process. Freshening of the bone ends stimulates union by exposing fresh bone, releasing inflammatory mediators and marrow contents. Arthroscopic debridement of docking site achieves this whilst respecting the soft tissue envelope, which is vital in the post-infected or traumatised limb.

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The 'golf-tee' incision for lower mid-pole peri-areolar cancers

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BACKGROUND

Breast-conservation treatment is an acceptable alternative to mastectomy for the treatment of early breast cancers¹ and provides

Figure 1 Pre-operative planning. The 'golf-tee' incision is illustrated by the lines drawn at the edge of the nipple and is designed to be incorporated into a mastectomy ellipse (larger outlined area) should the necessity arise. Tumour position is depicted by the stippled area.

Figure 2 Immediate postoperative appearance after tissue resection, parenchymal apposition both in the transverse and longitudinal planes, and skin closure.

Figure 3 The cosmetic outcome of the 'golf-tee' incision used for a tumour in the 6 o'clock, peri-areolar position of the right breast. In this case, clear margins were obtained for a 2-cm Grade 3 infiltrating ductal carcinoma with a negative sentinel node. At 4 months after surgery, the scar is relatively inconspicuous.

improved body image and sexuality.² The recent advent of oncoplastic approaches has allowed breast-conserving surgery to be applied to larger tumours in various positions with reasonable cosmetic outcomes.³ Tumours located at the 6 o'clock position in the peri-areolar region pose a particular challenge. A technique to overcome this is described.

TECHNIQUE

The 'golf-tee' incision is a modification of the boomerang incision.⁴ (Fig. 1) Segment resection is planned as an ellipse with its long axis lying radially. To allow for optimum cosmesis with minimal nipple distortion when apposition is complete, triangular extensions of resection may be made at the mid-points on both sides of the segment.

DISCUSSION

Most oncoplastic approaches already described are mainly for women with larger breast tissue volume.³ It has been reported that most patients with smaller volume of breast tissue are not amenable to volume displacement techniques.³ Chinese women, who make up the majority of this author's practice, have been found generally to have smaller breast tissue volume.⁵ This poses a unique challenge to surgical treatment of breast cancer in this cohort of women, especially where the tumour is in the mid-pole, peri-areolar region. The use of the 'golf-tee' incision, appropriate tissue resection patterns and careful execution of volume displacement techniques can overcome this difficulty. This further expands the repertoire of available approaches for best aesthetic outcomes in breast-conservation treatment in the majority of patients regardless of breast tissue volumes (Figs 2 and 3).

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Cartella eye-shield as a dressing after nipple reconstruction – a technical innovation

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BACKGROUND

Reconstructed breast without nipple is called a breast mound.