

THE CORRECTION OF PERMANENTLY INVERTED NIPPLES

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Among the reasons given to justify the correction of inverted nipples are difficulty with hygiene, a dread of being unable to breast feed and fear that the untreated condition may predispose to the onset of carcinoma of the breast. Most women dislike the deformity and the sexual difficulties that it may produce. Correction may also be required when inversion is a complication of operations on the breasts, particularly certain types of reduction mammoplasty.

Inversion of the nipple may present either as a permanent deformity or one that can be passively corrected by manipulation. This may determine the choice of operation as will the patient's aspirations towards breast feeding. It is important to determine whether the deformity was present before puberty. If it developed after puberty mammography may be required to exclude pathological abnormalities in the breast.

The method of correction to be described is suitable for the correction of permanently inverted nipples, no matter what the cause (provided there is no malignant process in the breast) and for passively correctable inversion, provided the patient has no desire or need to breast feed subsequently.

SURGICAL TECHNIQUE

A transverse incision is made along the full diameter of the nipple (Fig. 1). The placing of this incision can be varied to include old scars if there have



FIG. 1. The nipple is everted by two stay sutures. The site of the transverse incision is marked with ink.

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been previous unsuccessful attempts at repair. The incision is deepened through the full thickness of the nipple and the mass of periductal fibrosis and ducts beneath the prominence of the nipple. A stay suture is placed on each side of the incision at the apex of the nipple and the prominence elevated by traction. On both halves of the nipple the mass of tissue beneath the prominence is incised in such a way that a flap of tissue is raised based on the cutaneous surface of the nipple (Fig. 2). The flaps are then folded on

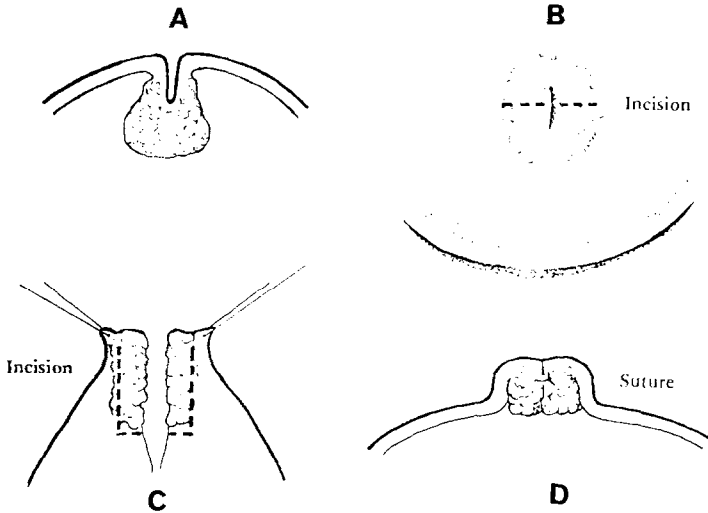


FIG. 2. A. Diagram to show the fibro-ductal mass beneath the inverted nipple. B. The extent of the nipple incision which does not extend beyond the areolar margin. C. After incising the nipple, two flaps of fibro-ductal tissues are raised, based on the cutaneous surface of the nipple. D. The flaps are folded up on themselves and held in position with absorbable sutures.

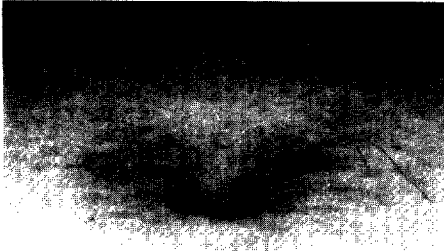
themselves and secured by absorbable sutures to produce a block of tissue that will lie within the everted prominence of the nipple. A non-absorbable, monofilament, purse-string suture is then placed in such a way as to obliterate the dead space left by mobilization of the flaps (Fig. 3). The prominence of the reconstructed nipple is determined by the bulk of the flaps and can be "tailored" to match the patient's requirements. The skin is closed with interrupted 6/0 sutures which are removed on the fifth post-operative day. Slight difficulty may be found in obtaining exact co-aptation of skin edges on the prominence: a small gap of 1 to 2mm is compatible with rapid healing and a good cosmetic result. No dressings are used, but care is taken to avoid pressure on the reconstructed nipple. A typical result of this procedure is illustrated in Figure 4.

RESULTS

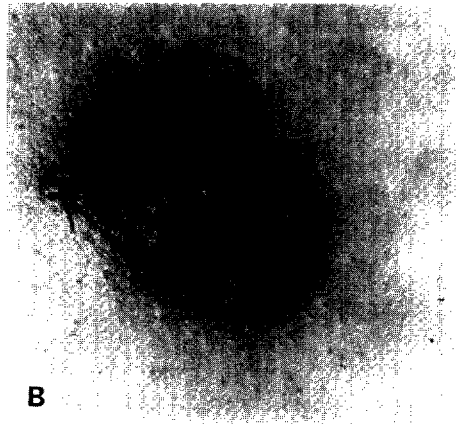
Nine patients (16 nipples) have been treated by this method. There have been no recurrences of the deformity, no loss of nipple substance and no complications attributable to the buried sutures. The follow-up period has



3. After the flaps have been folded and secured in position, a non-absorbable stay suture is used to obliterate the dead space and provide a "seat" to support the flaps.



A



B



C

FIG. 4. A. Pre-operative appearance of a congenitally inverted nipple. B. Front view of the reconstructed nipple. C. Lateral view of the reconstructed nipple.

been from three years to fifteen months. None of the patients, whose ages ranged from 23 to 37 years, has so far become pregnant. The trans-areolar scar is unobtrusive and acceptable to all the patients.

DISCUSSION

The wide number of operations described to correct this condition bears testimony to the difficulty in obtaining a satisfactory permanent correction. The method described in this paper is a modification of that reported by Broadbent and Woolf (1976), who used flaps of sub-areolar tissue. Our modification does not encroach on normal breast tissue but instead uses the fibrous tissue mass beneath the nipple itself to obtain eversion.

Patients with permanently inverted nipples (for example those who do not respond to nipple shield suction) are usually unable to breast feed due to periductal fibrosis and hypoplasia of the ducts, so that division of the ducts does not alter the already poor outlook for breast feeding. Furthermore, in the most severe cases, the subareolar mass must be divided to allow eversion of the skin edges to obtain neat co-aptation. The method of Broadbent and Woolf, suitable for most cases of nipple inversion, has the theoretical advantage of not dividing the ducts and should be used when there is any possibility of passive eversion. The modification described here applies to those cases that cannot be passively everted.

Schwager *et al.* (1974) drew attention to the lack of substance beneath the nipple and explained this by postulating that the mesenchyme under the mammary bud fails to proliferate and push the nipple out. The repositioning of the flaps in the method described here corrects the tissue shortage beneath the prominence without using implants such as auricular cartilage, as suggested by Brent and Bostwick (1977) or the de-epithelialised local areolar flaps of Elshahy (1976). Attempts to elevate the nipple without division of the fibrous strands results in recurrence of the deformity. Division of the strands without replacement of bulk results in a patulous nipple. Other techniques such as those described by Skoog (1952) and d'Assumpção and Rosa (1977) attempt to maintain eversion by the excision of diamond-shaped areas of skin. This may have the effect of diminishing the size of the areolar and is undesirable when the nipple is hypoplastic as well as inverted.

In our patients the prominence of the nipple remains permanently erect; the rest of the areolar contracts in the normal way when stimulated.

A permanently obstructed duct has been considered a possible risk factor in the development of breast cancer. The method described here is recommended for patients with permanently obstructed inverted ducts. Our operation would not be expected to alter such a (theoretical) risk.

SUMMARY

A simple method to correct inverted nipples is described. The method is suitable only when the patient has no desire or ability to breast feed.

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