Case Report

"Scarless" excision of a nipple adenoma case report—a good aesthetic outcome after a circular nipple excision with purse-string closure technique

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Abstract: Complete surgical excision of nipple adenoma with clear margins offers the lowest risk of recurrence of this locally infiltrative yet benign entity. A thorough triple assessment including histological assessment is crucial to exclude any malignant pathology, and confirm the diagnosis. There are many excisional and ablative techniques published that can give clear resection margins, but there remains a paucity of data on acceptable aesthetic outcomes. It is important to balance between adequate surgical margins to prevent recurrence and a good aesthetic outcome, particularly in a young patient. We wish to highlight a good aesthetic outcome following a simple circular excision with purse-string closure of the nipple defect. We present a 28-year-old lady with a progressively ulcerative lesion that involved the entire nipple. Ultrasound did not show any other underlying lesions or intraductal extension. Punch biopsy confirms the diagnosis of a benign nipple adenoma. She was counselled for complete nipple excision and the defect was primarily closed with purse-string technique. This may not be a novel technique as it has been described for closure of other defects. However, the benefit of a purse-string closure of a circular nipple excision defect to reduce scarring may be underreported in the literature. This technique helps to conceal the scar within the areola, retain its natural corrugated appearance, and prevent distortion to the overall shape of the areolar complex. The final outcome of a complete nipple excision resembles that of a 'scarless' excision and remains aesthetically pleasing. We hope to allay fears of clinician and patients faced with similar condition by offering a safe, easily reproducible, single staged technique that offers high patient satisfaction in selected patients. Using this technique may even preclude the need for further nipple reconstruction.

Keywords: Nipple adenoma; scarless; circular excision; purse-string closure; case report

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Introduction

There is consensus that the management of nipple adenoma by complete surgical excision with clear margins offers the lowest risk of recurrence. A thorough triple assessment of the breast including histological assessment is crucial to exclude a malignant pathology and confirm diagnosis of this locally infiltrative yet benign condition (1,2). However, radical central breast excision may not always be necessary (1,2). It is important to balance between safe surgical margins to prevent recurrence and a good aesthetic outcome, particularly in a young patient. We would like

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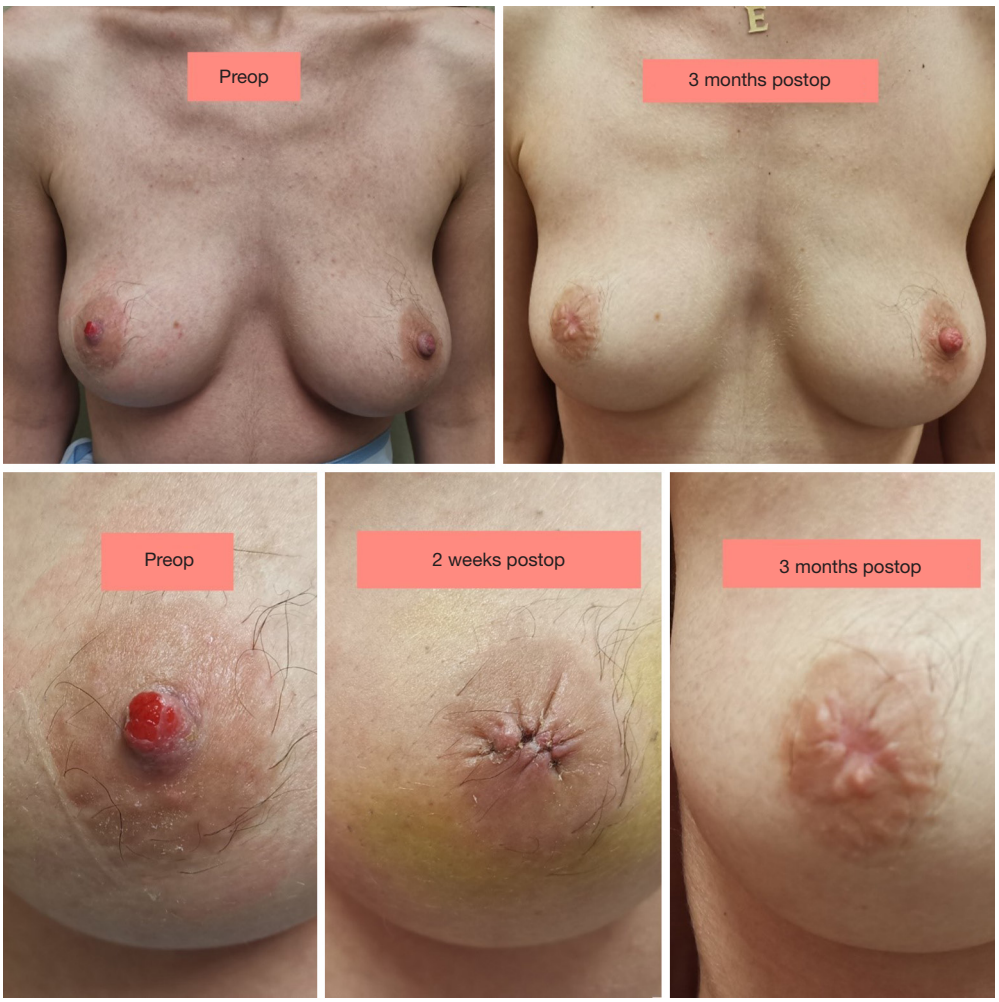

Figure 1 Pre and postoperative clinical photograph of a circular excision of nipple adenoma with purse-string closure.

to report on a patient with an exceptionally good aesthetic outcome after an adenoma excision. This was achieved with a simple purse-string closure technique (*Figure 1*). The benefit of its application following complete nipple excision may be underreported in the literature (3). We present the following case in accordance with the CARE reporting checklist (4) (available at https://abs.amegroups.com/article/view/10.21037/abs-21-66/rc).

Case presentation

The 28-year-old patient was a postgraduate student from Turkey who was in Singapore for studies. She presented with a nipple rash which was initially treated as nipple eczema. This was her first presentation for breast condition and she had no other significant medical or family history. When this did not resolve with topical steroids, her dermatologist referred for a punch biopsy which revealed the diagnosis of a benign nipple adenoma. Bilateral breast ultrasound was otherwise unremarkable. She was offered nipple excision. Given her young age, her primary concerns were the inability to breastfeed as well as the poor aesthetic outcome after nipple excision. However, she developed a progressively friable and ulcerative lesion involving the entire nipple and was very perturbed by the persistent symptoms of bleeding and itching. We discussed the role of immediate versus delayed nipple reconstruction as there was a chance of involved microscopic margins despite taking adequate gross margins. She decided for nipple excision with delayed nipple reconstruction. Histology revealed a 1 cm nipple adenoma with skin ulceration. Clear microscopic margins were achieved. At 6 months follow up,

there was no evidence of recurrence, and patient was highly satisfied with the almost 'scarless' appearance of a new areola. She declined further reconstructive surgery.

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee(s) and with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

Technique

We used a circular incision to excise the nipple completely including the subareolar ducts. The resultant defect measured 1.5 cm in diameter. We then undermined a 2 cm radius area around the defect so as to allow for tension-free subcuticular purse-string closure with PDS 5/0 and Monocryl 5/0 (Ethicon, Georgia, USA). Care was made to ensure good opposition of wound edges with additional Monocryl stitches as needed.

Discussion

Surgical excision is the only definitive treatment for nipple adenoma and many surgical techniques have been described in the literature (1,2). They may be divided into nipple preservation techniques such as cryosurgery, enucleation of the tumour, and Mohs micrographic surgery versus more radical approaches such as complete excision of nipple areola complex, or even wide central excision (2,5-9). Kuflik showed that there could be a central slit like defect 7 years following cryosurgery (5). Wang and Sadanaga *et al.* demonstrated a transnipple approach for extirpation of tumour (2,6). Fujii *et al.* published an outcome of retrograde enucleation using a periareolar incision (7). A good outcome was also seen following Moh's micrographic surgery published by Owen but the lesion was dome shaped with focal erosion on the nipple measuring 7 by 6 mm hence allowing for nipple preservation (8). The main disadvantages of nipple preservation techniques are the risk of recurrence due to involvement of margins, and are not suitable for cases that have complete nipple involvement. In cases of radical resection requiring nipple reconstruction, the outcomes may be associated with low satisfaction rate and poor aesthetic outcome (1). In cases without reconstruction, the ensuing outcome may be a long unsightly scar (9). Our case report illustrates a successful management of nipple adenoma in a younger patient undergoing complete nipple excision without the need for nipple reconstruction. Both patient and treating physicians independently report high satisfaction rate with the aesthetic outcome. The main benefits of a purse-string closure include the ability to reduce the size of the scar, conceal it within the naturally corrugated areola complex and to preserve the overall shape of the areolar complex. The final outcome of a complete nipple excision resembles that of a 'scarless' excision and remains aesthetically pleasing. This technique is ideal for patients with a relatively small lesion size to areola ratio such that resultant areola area can still be comparable with the contralateral side. Bilateral nipple areolar complex positions should also be symmetrical to avoid a need for additional displacement techniques. In terms of position, size, shape and texture, a circular excision with purse-string closure of the areola defect gives a superior result compared to other method such as elliptical wide excision with transverse primary closure or healing by secondary intention (5). In cases of involved margins, it is recommended to have wider excision and hence a delayed nipple reconstruction after histological confirmation of clear margins should be discussed with the patient. The disadvantage of the absence of nipple projection could be mitigated with a local flap or nipple graft reconstruction at a later stage. Reconstructive options such as a local C-V flap with or without an addition graft for strut-like support are associated with a longer noticeable scar, distortion of the nipple-areola complex (NAC) shape and additional donor site morbidity with variable durability of the nipple projection (10).

Conclusions

We wish to highlight the good aesthetic outcome following a simple circular excision with purse-string closure of the nipple defect. This may be a safe, easily reproducible, single staged technique that offers high patient satisfaction in selected patients. Using this technique may even preclude the need for further nipple reconstruction.

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Footnote

Reporting Checklist: The authors have completed the CARE

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Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at https://abs.amegroups.com/article/view/10.21037/abs-21-66/coif). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee(s) and with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editorial office of this journal.

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