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Surgical Video

Reconstruction of Surgical Defects Using Ultrathin Skin Graft Strips Harvested With DermaBlade® and Secured Exclusively With Tissue Adhesive

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Introduction

We describe a surgical technique for covering small and large skin defects using thin sheet grafts harvested with a DermaBlade® and secured with tissue adhesive, without the need for sutures.

Description of the technique

The grafts obtained using this technique are extremely thin when the DermaBlade® is held at the appropriate angle and pressure is applied (Fig. 1a). Once harvested, the grafts are spread out on gauze moistened with saline (Fig. 1b).

The skin strips are placed on the surgical wound bed and secured without sutures or staples by applying tissue adhesive (Dermabond®) only along their peripheral margins (Fig. 2a). Additional strips are then placed sequentially until the defect is completely covered. The adhesive is also used to join adjacent edges to form a continuous surface, while avoiding application to the wound bed, which would prevent proper graft integration (Fig. 2b). Once the entire defect has been covered, the excess graft tissue is trimmed from the margins (Fig. 2c and d).

Finally, bone wax is molded to fit over the graft, with mupirocin applied to its contact surface to prevent adhesion to the graft (Fig. 3a). It is then secured using adhesive strips and an occlusive dressing to maintain uniform pressure for 4 or 5 days, after which the dressing and bone wax are removed (Fig. 3b). On removal, the graft should be

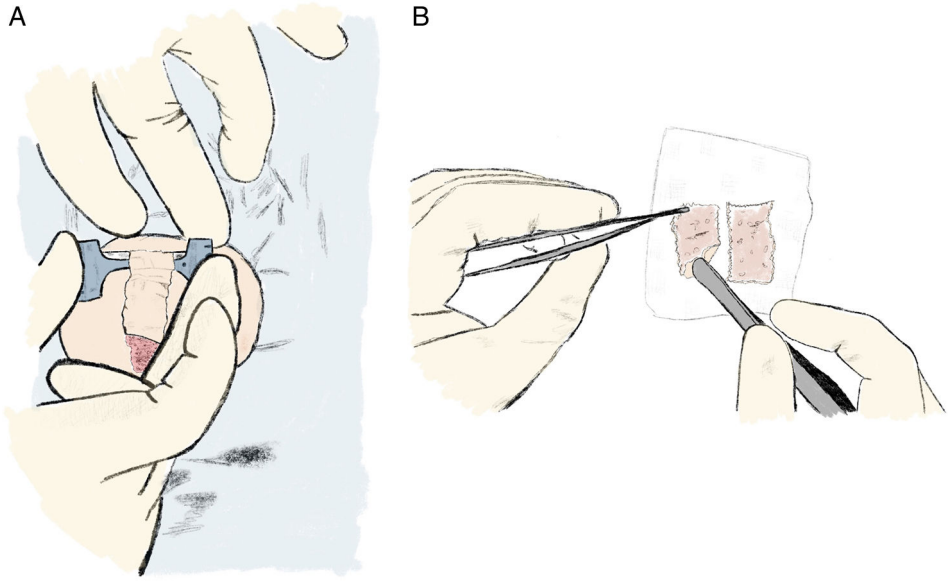

Fig. 1. Harvesting an ultrathin graft using DermaBlade®, followed by spreading the graft on moist gauze.

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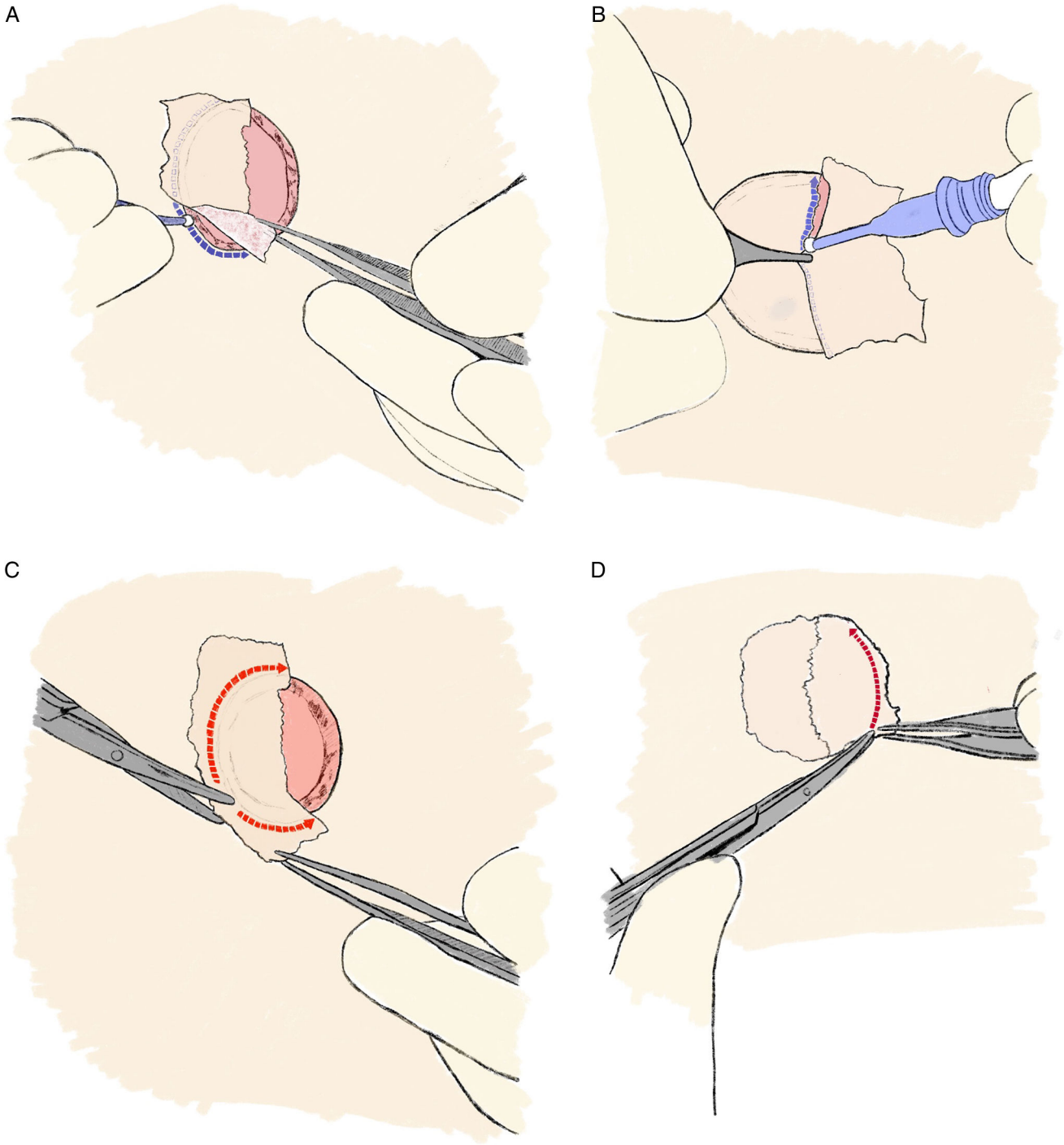

Fig. 2. Placement of the graft on the surgical wound bed and adhesion of its edges using Dermabond®. Finally, the excess graft tissue is trimmed from its margins.

firmly adherent, with no displacement or evidence of a serosanguineous collection.

Advantages and disadvantages

Among the advantages, this is a low-cost,[1] rapid, and minimally invasive graft harvesting and placement procedure. Because the graft is extremely superficial and remains away from deeper blood vessels, it reduces bleeding at the donor site. It also reduces bleeding at the recipient site because sutures are unnecessary,[2] making it particularly useful in patients receiving antiplatelet and/or anticoagulant therapy. In addition, both sites heal more rapidly than after a full- or split-thickness skin graft harvested with a dermatome; healing may be further accelerated by leaving narrow bridges of intact skin between the harvested strips. Another advantage is its versatility, since additional strips can always be harvested if necessary. Its potential value in treating chronic ulcers, given its similarity to Reverdin grafts,[3] is also noteworthy. In summary, we present another option in the pursuit of rapid, minimally invasive dermatologic surgery.[4]

Disadvantages include the need for secure fixation because, without sutures, the graft can more readily become displaced from the wound bed. Its extremely thin structure also makes it highly susceptible to serosanguineous collections forming beneath it. Finally, residual hypopigmentation may occur at the donor site. In this context, the scalp

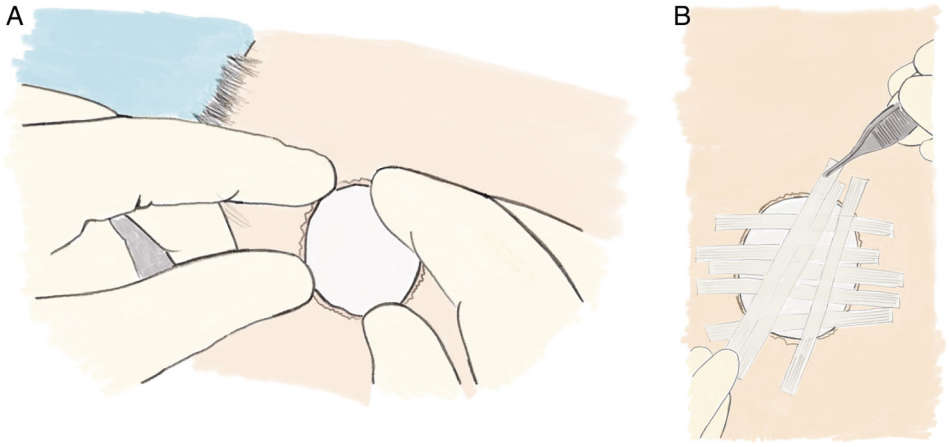

Fig. 3. Placement of bone wax over the graft, followed by fixation using adhesive strips and a compression dressing.

may be a suitable donor site because it also has greater healing potential.

Conclusion

Using dermal adhesives as the sole fixation method simplifies reconstruction of large skin defects, reduces the need for surgical instruments, and lowers the risk of suture-related bleeding. Harvesting ultrathin strips with a DermaBlade® enables the creation of a continuous mosaic, optimizing contact with the wound bed and adaptation to anatomical contours. We therefore present a surgical technique that represents a step toward the future of minimally invasive dermatologic surgery.

Conflict of interest

The authors declare that they have no conflict of interest.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.ad.2026.104760.

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