SKIN

SHORT COMMUNICATION

The “Brownsville Bolster”: A Novel Bolstering Technique For Full Thickness Skin Grafts

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The success of a skin graft is dependent upon several factors including graft vascularization and nutrition absorption. A successful skin graft can be cosmetically appealing as a reconstructive option in certain anatomical sites following surgical treatment with Mohs micrographic surgery. To enhance graft survival, bolstering techniques are often used to immobilize the graft and reduce hematoma and seroma formation. Commonly used bolstering materials are foam, plastic, cotton balls, and gauze; for suturing, the tie-over technique is most commonly used. [1-4]

We present a new method of bolstering skin grafts, the “Brownsville Bolster”, which has been yielding great results and fast healing in clinical practice for over nine years. This method allows for an even distribution of pressure throughout the skin graft, minimizing risk of pockets that are not vascularized and thus minimizes risk of graft necrosis. After the skin graft is sutured in place (Figure 1B), we apply a thin layer of sterile hydroactive paste and cover the grafted skin with petrolatum blend fine mesh gauze. This dressing is occlusive, maintains a moist environment, is non-adherent and non-traumatic to the wound, and is easily cut and molded to the graft size. Then, a hydrocolloid dressing, a formulation that creates a vapor-permeable outer film and provides an occlusive moist environment, is applied on top of the petrolatum dressing gauze. It is sutured in place using a dome-like distribution of pressure on the skin graft, approximately 1 cm away from the graft edge, so as to not traumatize the skin graft (Figure 1C). Three opposite-ended interrupted sutures are placed to anchor the bolster. A running epidermal suture is used to secure the hydrocolloid dressing in place. Additionally, 2-3 opposite ended interrupted sutures can be used.

Additive hydrocolloid dressing is associated with shorter treatment times and fewer complications [5]. The “Brownsville Bolster” technique incorporates the sterile hydroactive paste followed by the petrolatum blend fine mesh gauze, which is then sealed with the hydrocolloid dressing anchored in place using a running epidermal suture. This method allows for an even distribution of pressure to be applied to the skin graft and decreases shearing forces across the graft. Furthermore, it provides a waterproof barrier over the dressing as well as mechanical and thermal protection. The honeycomb matrix of hydrocolloid particles absorbs exudate to form a soft, moist gel; this helps with relieving discomfort. [6]

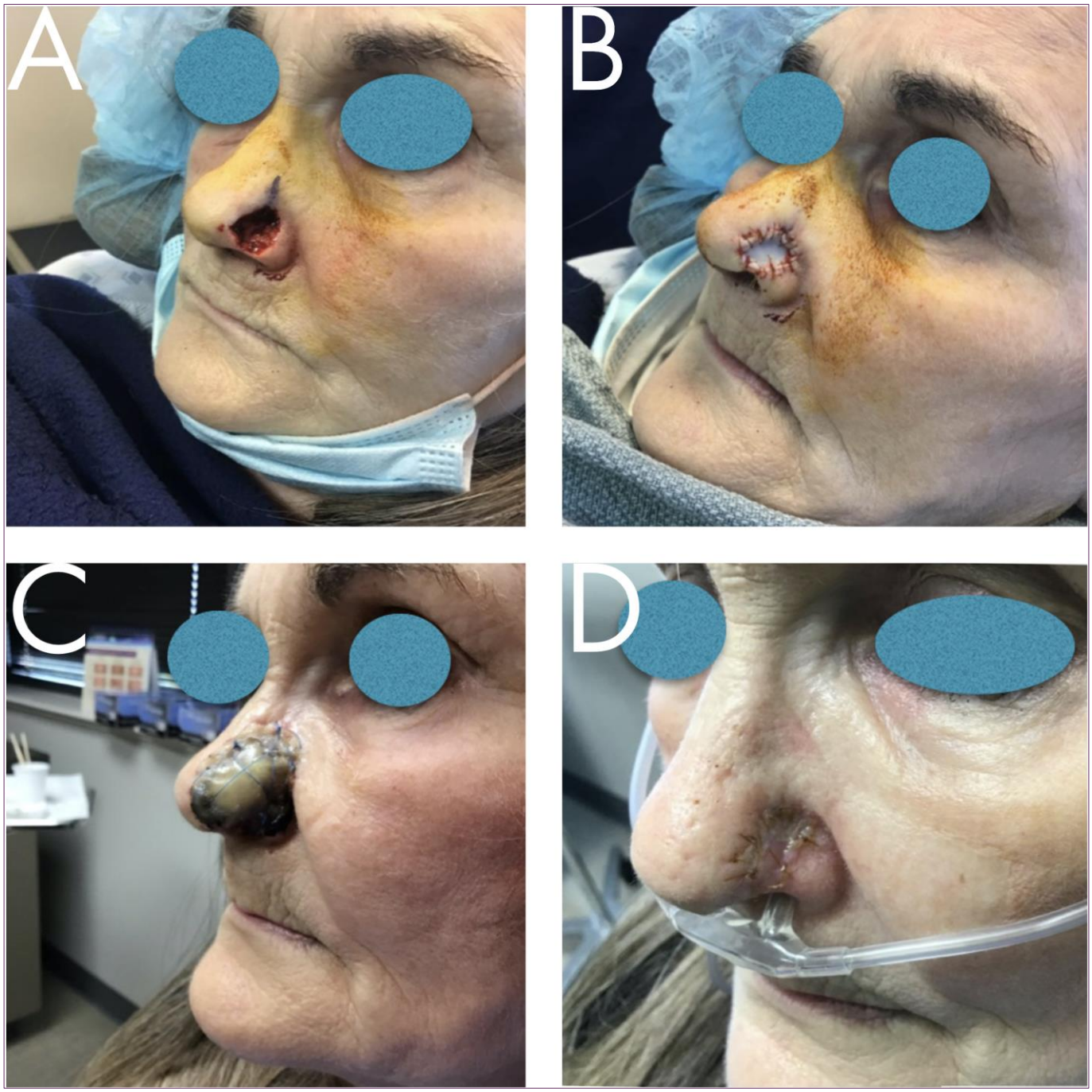

Figure 1.

This dressing can be worn continuously for approximately 7 days, after which it is removed and wound care to the skin graft can be continued until healed. We advise patients to keep the bolster dry for 7 days, if possible, to ensure that the bolster remains firmly in place and is not overly moist or macerated. The authors found that the use of this bolster method is highly effective in providing high graft viability, providing adequate pressure onto the graft bed and

therefore increasing graft vascularization and viability (Figure 1D). In addition, we found that this bolstering method is more stable and cosmetically pleasing when compared to traditional petrolatum dressing gauze-only bolsters.

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