

Topical Negative Pressure for Autologous Fat Grafting in Breast Augmentation

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Abstract : Aim: Topical negative pressure has been shown to enhance angiogenesis during wound healing, both for open and closed wounds. Since angiogenesis is a key requirement for successful fat grafting, there may be a role for topical negative pressure as a means of enhancing the take rate during autologous fat grafting to breasts. Here we present a systematic review of the literature on this topic. Methods: Ovid and Embase were utilized, with searches ranging between 1960 - 2019. Terms ("Liposculpting" OR "Fat grafting" OR "Lipofilling" OR "Lipograft" OR "Fat transfer") AND ("Negative Pressure" OR "Brava" OR "Kiwi") AND ("Breast") were merged as keywords. Inclusion criteria were females, autologous fat graft to breast with topical negative pressure prior to the procedure. Studies were excluded if there was no primary endpoint or non-original article. Results: Upon reviewing 219 articles, 2 met inclusion criteria. A total of 565 and 46 breasts in each article were treated respectively using the negative pressure device BRAVA®, with each cohort having different pre-and post-operative pressure settings. Khouri et al. cohort had higher graft survival (79%) compared to Del Vecchio et al. cohort (64%); however, the latter had fewer complications compared to Khouri's cohort, e.g., fat necrosis, pneumothorax and infection. Conclusion: There is limited evidence regarding the use of topical negative pressure for fat grafting to the breasts. However, in the two studies published, the reported rates of success are high, suggesting there may be a benefit. Consequently, a randomized controlled trial on this area is required.

Keywords : fat grafting, lipograft, negative pressure, breast, breast augmentation, brava

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