The Suture Tab Technique: Securing Implant Position in Prepectoral Breast Reconstruction

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Summary: Human acellular dermal matrix (ADM) can augment prepectoral prosthetic-based direct-to-implant breast reconstruction by providing an additional soft-tissue layer between breast implant and skin, as well as to reinforce the inframammary fold and breast pocket. Utilizing ADM in this way has helped reduce rates of implant rippling, capsular contracture, and implant extrusion. Difficulty in securing ADM-wrapped implants has caused many surgeons to improvise techniques for secure implantation. Here, we describe a simple technique for creating suture tabs within the ADM for efficient fixation of the ADM-implant construct to the chest wall. (Plast Reconstr Surg Glob Open 2018;6:e2005; doi: 10.1097/GOX.0000000000002005; Published online 12 December 2018.)

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A sheet of DermAcell Microperforated ADM (NOVADAQ, Stryker, Kalamazoo, Mich.) is prepared and laid...
dermal side down in a sterile field, with the long axis directed vertically. The breast implant is placed face down on the sheet of ADM and is positioned toward the inferior margin of the ADM so that at least 1 cm of ADM excess is present superiorly. This end of the ADM is incised 4 cm lengthwise into thirds such that this longer end contains 3 equally wide tabs. The outer 2 tabs are lifted around the implant and sutured together using 3-0 Vicryl suture to secure the ADM around the implant, and the middle tab is left free for eventual use in securing the ADM-implant construct to the chest wall. The 2 inferior corners of ADM are equally lifted around the implant, sutured together, and sutured to the upper outer tabs using 3-0 Vicryl (Fig. 1).

The above procedure effectively creates a superior ADM tab that may be used to support the implant. The implant is now prepared and can be flipped over and positioned into the postmastectomy breast pocket (Figs. 2, 3). The superior ADM tab is sutured to a slip of pectoralis major muscle, which is raised for this purpose, and the medial and lateral ADM excess is sutured to the chest wall with interrupted 3-0 Vicryl suture, generating the desired level of the lateral breast margin and inframammary fold. These tabs serve to maintain vertical positioning and to reinforce and secure inferolateral stability, minimizing implant motion with gravity. Any remaining free sections of ADM can then be sutured to the chest wall as desired. A 15F Blake drain is placed in the breast pocket superficial to the ADM-wrapped implant and is brought out laterally through the skin before wound closure with 3-0 Monocryl suture.

**DISCUSSION**

The creation of suture tabs via the above-described technique allows for simple and reliable implantation of the ADM-wrapped breast implant. Superior suture tabs are created preferentially, as vertical movement has been shown to be greater than horizontal movement among breast implants. Similarly, stabilization of the inferolateral position is of great importance, as there the effects of gravity and thus the potential for implant migration are most pronounced. The creation of additional suture tabs is possible given enough ADM material, but we have found it to be unnecessary for the stability of the implant-ADM construct within the breast pocket.

The benefits of ADM in PBBR have been widely reported. DermAcell Microperforated ADM was chosen and is used at our institution due to potentially reduced postoperative breast redness compared with other ADM products, though it should be noted that all ADM products currently available are generally regarded as very safe. A recent prospective multicenter study of 1,297 patients found no significant increase in complications or reconstructive failure with the use of ADM, demon-
As such, ADM size-selection should be appropriately matched to breast implant size. When considering the potential monetary and psychological cost of revision procedures due to aesthetic dissatisfaction, implant rippling, or implant extrusion, it is understandable why the use of ADM to attempt to prevent these occurrences is ever growing. With this continued expansion will come novel techniques to simplify implantation and fixation, and we believe describing these techniques continues to be useful in maximizing resource utilization and efficiency.

**CONCLUSIONS**

The suture tab technique presented here offers a simple and reliable method for securing breast implants wrapped in ADM to the chest wall in prepectoral, direct-to-implant, prosthetic based breast reconstruction, allowing for optimal implant positioning and reinforcement intraoperatively, and likely minimizing implant migration postoperatively.