

## Discussion

### The Use of Fibrin Sealant for the Reduction of Seroma

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“Efficacy of quilting sutures and fibrin sealant together for prevention of seroma in extended latissimus dorsi (ELD) flap donor sites”: In this article, the authors compared the efficacy of fibrin sealant alone with a combination of fibrin sealant and quilting sutures for prevention of seroma in ELD flap donor sites. Their 46 patients underwent mastectomy and ELD flap reconstruction and the two groups were homogenous except for the quilting sutures. They showed significantly greater reduction in the incidence (76 to 43 percent), total drainage amount, seroma volume, and so on in the combination group relative to the fibrin sealant only group.

“Does fibrin sealant reduce seroma after immediate breast reconstruction utilizing a latissimus dorsi (LD) myocutaneous (MC) flap?”: The authors of this article questioned the efficacy of fibrin sealant in prevention of seroma after LD flap breast reconstruction. Their patients all underwent partial mastectomy and axillary dissection, followed by immediate reconstruction utilizing LD flap. The two groups of patients (23 each) were equivalent except for the use of fibrin sealant spray. Interestingly, there was no delayed onset of seroma formation in all cases. They failed to show a significant benefit of using fibrin sealant for the prevention of seroma or reduction of the total amount of drainage or maintenance duration of the drains. The authors suggested the possibility that a tissue reaction had been elicited, or that dissolution and drainage of the material had occurred in speculating on the ineffectiveness of the fibrin glue.

These two articles have several commonalities. Firstly, both focused on the reduction of donor site seroma after LD or ELD flap breast reconstruction. Secondly, both have two homogenous groups who underwent surgery by the same surgeon, having only one variable to compare. However, aside from the main procedure that was performed, there are important differences between the two studies. For example, one deals with complete mastectomy followed by ELD reconstruction while the other deals with partial mastectomy reconstructed with LD flap. De-

tails such as the definition of seroma used in the diagnosis and the method of drain insertion are also somewhat different.

The authors of the article “Does fibrin sealant . . .?” reported that the use of fibrin sealant in the LD flap donor site is not effective in reduction of drainage amount or duration. Surprisingly, few studies have reported the efficacy of fibrin sealant in the prevention of LD flap donor site seroma. One report using a rat LD flap model advocated the effectiveness of fibrin sealant [1]. However, other studies with stronger evidence have postulated that the use of fibrin glue does not prevent or reduce seroma incidence or magnitude [2,3]. Although the above-mentioned reports are not restricted to the LD flap donor site, one could anticipate that fibrin sealant alone, that is, without quilting sutures, does not have obvious benefit for prevention of LD flap donor site seroma.

On the other hand, quilting sutures have been reported to significantly reduce seroma formation after LD flap elevation [4,5]. The benefit of quilting sutures has been shown in other procedures such as abdominoplasty or transverse rectus abdominus myocutaneous (TRAM) flap elevation [6,7], and the suggested mechanisms include obliteration of the dead space and dispersion of tension. In short, there seems to be a consensus that quilting the donor site is generally effective in reducing seroma formation [6-8]. Recently a systematic review concluded that quilting suture is effective in prevention of LD donor site seroma, and combining quilting with fibrin glue further enhances its effectiveness [9]. Ali et al. [10] also showed that the combination of fibrin glue and quilting reduced drainage in the ELD donor site, compared with a quilting only group. They presumed that fibrin glue alone cannot maintain its integrity when under the stress of the shearing forces produced by movements of the torso when reclined in bed postoperatively. The authors of the article “Efficacy of quilting . . .” frankly reported a significant reduction in the incidence of seroma by adding the quilting sutures compared with using fibrin sealant alone. Economic as well as clinical benefits were evident as shown in reduction of the total amount and duration of seroma, reduction of drain re-insertion, and so on.

Donor site seroma still seems to be one of the major problems in LD or ELD flap breast reconstruction and efforts have been made to determine the best approach to preventing it. In short, fibrin sealant alone does not seem to be consistently effective. Quilting sutures, on the other hand, have been reported to be helpful in the prevention of LD donor site seroma, and a combination of quilting sutures and fibrin glue seems

to be even more effective. Now in the era of evidence-based medicine, we must take note of the best-designed studies in the literature as we reconsider how to prevent LD donor site seroma.

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