

Discussion**The Continuing Battles against Seroma in Latissimus Dorsi Flap Donor Sites**

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Seroma is a common and a frustrating complication of latissimus dorsi (LD) flap. It can lead to wound infection, skin flap necrosis, dehiscence and finally increased morbidity and cost. There have been many methods aimed at decreasing the incidence of seroma formation after LD flap harvest. These include avoidance of electrocautery dissection, the use of “quilting sutures” and/or fibrin sealant, endoscopic or robotic harvest, pressure dressings, sclerotherapy, and finally reoperation with capsulectomy [1]. Among them, the two main approaches nowadays are the application of fibrin sealant and quilting suture [2].

In this article “Does fibrin sealant reduce seroma after immediate breast reconstruction utilizing a latissimus dorsi myocutaneous flap?” the authors reported that the benefit of fibrin sealant is not clear and the use of this material should be prudently considered. For a total of 46 patients who underwent immediate breast reconstruction with LD flap after skin sparing partial mastectomy, the authors analyzed the daily cumulative drainage fluid volume and total drainage volume. There are conflicting studies regarding the efficacy of fibrin sealants in reducing seroma formation [2,3]. However, plenty of experimental and clinical studies show the reduction in the amount of drainage, seroma formation, and hospital stay in fibrin sealant. This study was performed in the setting of partial breast reconstruction after breast conserving surgery. Though their mean volume was slightly over 300 g, the extent of elevated LD muscle, skin, and subcutaneous fat might not have been extensive. Surprisingly, the authors noted no delayed seroma in their entire series. I suspect that the effect of fibrin sealant might become more evident

in seroma-prone conditions such as in extended LD flap for total breast reconstruction.

The authors of “The efficacy of quilting sutures and fibrin sealant for prevention of the seroma in the extended latissimus dorsi flap donor site” reported that quilting sutures with fibrin sealant is an effective approach to reducing seroma formation. Within the article, the authors concluded that the seroma incidence rate, seroma volume, total drainage volume, indwelling period of the drainage tube, and frequency of aspiration were lesser in the group that underwent quilting sutures with fibrin sealant than fibrin sealant only. Recently, the effect of combining quilting sutures with fibrin glue for LD flap donor sites has been studied. The combination of fibrin sealant and quilting sutures on the LD donor site reduced the volume of seroma drainage, the length of hospital stay, and the total seroma formation compared to those of the quilting suture only group [1,4,5]. This study was designed to compare the combination effect with a different control group, fibrin sealant only.

It would be interesting to compare the results with those of the former report [1] (Table 1). Overall, when judged by simple comparison, the quilting effect is stronger than the fibrin sealant effect in the reduction of seroma occurrence.

The current two studies are limited by their ‘retrospective chart review’ design. In recent reports on seroma in LD flap donor sites, prospective or well-designed retrospective cohort studies was undertaken. Although these two papers provided an insight on fibrin sealant and quilting sutures for reducing seroma formation in LD flap donor sites, a large-scale randomized controlled study is still required to obtain more reliable evidence before these techniques become our routine procedure.

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Table 1. Comparison of seroma formation, seroma volume, and total drainage

	Dancey et al., 2010 [1]			Shin et al., Arch Plast Surg 2012;39:509-513		
	Quilting	Fibrin+quilting	Differential (%)	Fibrin	Fibrin+quilting	Differential (%)
Seroma incidence	3/13 (23.1%)	1/13 (7.7%)	15.4	19/25 (76%)	9/21 (42.9%)	33.1
Total drainage (mL)	1,045	680	34.9	1,228.6	754.8	38.6

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No potential conflict of interest relevant to this article was reported.

Received: 3 Sep 2012 • Revised: 4 Sep 2012 • Accepted: 5 Sep 2012

pISSN: 2234-6163 • eISSN: 2234-6171

<http://dx.doi.org/10.5999/aps.2012.39.5.516> • Arch Plast Surg 2012;39:516-517
