

Fibrin Sealants and Quilting Suture for Prevention of Seroma Formation Following Latissimus Dorsi Muscle Harvest: A Systematic Review and Meta-analysis. [Review]

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Abstract:

PURPOSE: Despite popular use of fibrin sealants and quilting sutures for prevention of seroma formation at the donor site of the latissimus dorsi (LD) muscle flap, there is still no consensus regarding their efficacy. The present review estimates the potential benefits of fibrin and quilting suture for reducing seroma-related morbidity following LD muscle harvest.

METHODS: Using Medline, Ovid, and Cochrane databases, two-arm studies evaluating the efficacy of fibrin sealants, quilting suture, or their combination for prevention of seroma formation following LD muscle transfer were searched. The outcome measure was the incidence of seroma, total drainage volume from the back, periods of drainage in situ, volume of seroma, and frequency of aspiration for treatment of seroma. The efficacy on reducing the seroma-related morbidity for each procedure was estimated by meta-analytic methodology.

RESULTS: Fourteen studies were analyzed. Fibrin alone failed to reduce seroma-related morbidities compared with no intervention, while fibrin instillation combined with quilting suture halved the risk of seroma formation (relative risk (RR): 0.51, 95 % CI 0.12-2.16) and significantly reduced total drainage volume (mean difference (MD); -320.80, 95 % CI -389.92 to -251.68) and drain indwelling periods (MD -1.62, 95 % CI -2.91 to -0.33) compared with quilting suture alone. Quilting suture had significant protective effects on reducing the risk of seroma formation (RR 0.38, 95 % CI 0.19-0.75),

total drainage volume (MD -284.10, 95 % CI -474.61 to -93.60), and drain indwelling periods (MD -3.65, 95 % CI -5.43 to -1.87), and its efficacy was enhanced by combining with fibrin.

CONCLUSIONS: According to this review, both fibrin and quilting sutures contributed in varying degrees to reducing seroma-related morbidity following LD muscle transfer, and their combination can have a synergistic effect. Although large-scaled, randomized studies are needed, the combination of both procedures may be considered an effective option for minimizing the risk of seroma.

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