

The Effect of Technical Options on the Outcome of Seroma Formation in Abdominoplasty: A Systematic Review

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Introduction: Seroma formation is the most common complication in abdominoplasty procedure. The frequency of the postoperative seroma ranges from 1 to 57% with an accepted rate of over 10%^{1,2,3}.

Mechanisms that are hypothesised to cause seroma formation include: disruption of vascular and lymphatic channels, shearing forces between the fascia and abdominal flap, dead space formation and release of inflammatory mediators⁴.

The objective of this review was to assess the effect of three different abdominoplasty techniques, namely progressive tension sutures, application of glue and elevation of flap in a superficial Scarpa's plane, on the outcome of seroma formation in abdominoplasty.

Methods: The following electronic databases were searched between 1962 and January 21st 2015: Cochrane Library, MEDLINE (via Ovid), EMBASE (via Ovid), World Health Organisation (WHO) International Clinical Trials Registry Platform, with no language restriction. Studies were included according to pre-specified inclusion and exclusion criteria. Data for the outcome of interest were extracted. Treatment effect was investigated with Review Manager software tool.

Results: Out of 121 citations 15 studies fulfilled the inclusion / exclusion criteria for the final analysis involving 1824 patients. Four randomised controlled trials (RCTs) and eleven non-randomised studies (NRS) were identified with five studies for each group. The risk of bias across the study designs was high mainly due to the non-randomised nature of the majority of the studies. The patients in the quilting group and those undergoing superficial fascia (Scarpa's group) abdominoplasty have a reduced incidence of seroma formation compared to patients undergoing standard abdominoplasty. Patients in the glue group do not appear to have significant change in seroma outcome compared to the control arm.

Conclusion: The data suggests that quilting and raising the flap in a more superficial plane (Scarpa's fascia) reduces the incidence of seroma but using fibrin glue has no impact on the occurrence of seroma.

References:

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