



Comparative study between using of quilting sutures vs. using of fibrin sealant in prevention of seroma after abdominoplasty

Thesis

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List of Abbreviations

Abb.	Full term
ASAP	American Society for Aesthetic Plastic Surgery
BMI.....	Body mass index
CBC	Complete blood count
DM.....	Diabetes mellitus
DVT	Deep vein thrombosis
FDA	Food and Drug Administration
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HLT	High-lateral-tension
HTN	Hypertension
LMWH.....	Low molecular weight heparin
PE.....	Pulmonary embolism
PTS	Progressive tension sutures
SD	Standard deviation
SFS.....	Superficial fascial system

INTRODUCTION

The shape of the abdomen is responsible for the aesthetic shape of the body, and defines the curves and contour of the body. As the health risks due to obesity increase, many people seek various methods of losing weight and prior to weight loss, they usually desire to know what to expect for future contour of abdomen. Post-weight loss, many of these patients face the problem of excess skin and abnormal contour, especially in the area of the abdomen. This skin is recognized as a displeasing result, leading to dissatisfaction with personal appearance and significant desire to undergo body contouring procedures (*Valença –Filipe et al., 2015*).

Abdominoplasty is one of the most common body-contouring procedures. It is among the top five procedures in aesthetic surgery. The aim of abdominoplasty is to remove excess fat and skin and restore weakened muscles to create smoother firmer abdominal figure (*Grieco et al., 2015*).

Patient expectations of abdominoplasty include improved figure, increased self-confidence, and better quality of life. *Abdominoplasty* has shown to be successful in these aspects, as well as in improving the functional status of patients (*Kitzinger et al., 2012*).

Different skin incisions have been proposed over the years for abdominoplasty, but most surgeons prefer a mainly

horizontal low abdominal incision located in or close to “bikini line” (*Holzman et al., 2015*).

In spite of the evolution in the abdominoplasty techniques, it is associated with a significant number of complications. The most common complications are seroma, hematoma, infection, wound-healing problems, and skin flap necrosis, Anesthesia risks, Bleeding, Numbness or other changes in skin sensation, Skin discoloration and/or prolonged swelling, Unfavorable scarring, Recurrent looseness of skin, Deep vein thrombosis, cardiac and pulmonary complications, Asymmetry, Possibility of revisional surgery and Persistent pain. Avoidance of these complications starts with proper patient selection (*Ghnnam et al., 2016*).

Seroma formation remains the most frequent complication associated with abdominoplasty. Seroma alone is still reported with frequencies as high as 30 percent (*Mangano, 2011*).

Multiple risk factors have been found to increase the rate of complications including smoking, obesity, hypertension and previous abdominal surgery including weight-loss surgery (*Grieco et al., 2015*).

Obese patients (BMI > 30 kg/m²) are associated with increased operative time, hospital stay, drainage duration and drainage amount leading to an increased total, major, and minor complication rate as compared with nonobese patients (BMI <

30 kg/m²). The obese patients are commonly post bariatric patients who remain obese despite prior bariatric surgery (*Ghnnam et al., 2016*).

Seroma formed in the dead space between the abdominal flap and rectus abdominal muscle fascia, often requires repeated outpatient visits for aspiration resulting in increased rates of infection, prolonged recovery time or further surgical treatment. Although closed suction drains and compression garments are used routinely during the early postoperative phase, their effectiveness became questionable regarding the reported seroma rates (*Neaman et al., 2013*).

Multiple surgical procedures have been proposed to lower the seroma rate, such as progressive tension sutures, scarpa's fascia preservation, different dissection techniques and use of adhesives or fibrin sealants (*Moher; et al., 2009*).

The effectiveness of the aforementioned methods is supported mainly by retrospective studies, whereas the evidence from prospective randomized controlled studies is scarce (*Koller and Hintringer, 2012*).

Baroudi and Ferreira described the use of quilting sutures between the abdominal flap and rectus abdominus sheath during abdominoplasty to prevent seroma formation. Good results have also been reported by other authors using this procedure (*Baroodi and Ferriera, 1998*).

The use of fibrin sealant and placement of prophylactic drain have been described to reduce seroma formation but the incidence remained high. In those studies, seroma formation was detected by clinical examination and puncture and aspiration or by abdominal ultrasound (**Rios et al., 2003**).

The use of quilting sutures has first been established by Pollock and Pollock in their series of 65 abdominoplasties, there were no reports of seroma, hematomas or skin necrosis without the placement of abdominal drains (**Rios et al., 2003**).

Several authors have published conflicting data and this method has become a source of confusion in plastic surgery field. For example, McCarthy et al. (**Nahas et al., 2007**) found no significant decrease in seroma rates with quilting sutures. this is in contrast to the studies by Khan et al and Nahas et al. (**Pollock and Pollock, 2000**) who supported Pollock and pallock's data.

AIM OF STUDY

The aim of the present study is to compare between the rate of seroma in patients undergone abdominoplasty using quilting sutures technique and patients undergone abdominoplasty using fibrin glue.