Obesity as a Risk Factor in Cosmetic Abdominoplasty

A Systematic Review and Meta-Analysis

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Disclosures

• The senior author Dr. Fischer is a consultant for 3M, AbbVie, Baxter, Becton-Dickson, WL Gore, and Integra Life Sciences
• No funding was provided for this work
Background

• Prevalence of obesity rising worldwide

• More patients presenting with higher BMI than before

• Abdominoplasty 3rd most popular cosmetic surgical procedure in 2021

• Literature focuses on outcomes of obese, post-bariatric surgery/massive weight loss (MWL) patients
Objective

• Aim: To synthesize the available data in the literature on postoperative outcomes following abdominal body contouring in the obese, non-MWL, adult population.
Methods

- Systematic Review and Meta-analysis
  - PRISMA 2020 guidelines

- Literature search:
  - PubMed, Embase, Scopus, and Cochrane on August 5th, 2022

- Keywords:
  - Obesity, abdominoplasty, panniculectomy, body contouring

- Inclusion Criteria:
  - Studies with outcomes in obese patients following abdominoplasty/panniculectomy

- Exclusion Criteria:
  - >50% patients are bariatric surgery/MWL
Results

- 16 studies met inclusion criteria, 9 were used for quantitative synthesis
- Outcomes:
  - Surgical site infections (SSI)
  - Seroma
  - Hematoma
  - Wound dehiscence
  - Total surgical site occurrences
## Results

<table>
<thead>
<tr>
<th></th>
<th>BMI &lt; 30 kg/m²</th>
<th>BMI ≥ 30 kg/m²</th>
<th>OR, 95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSI</td>
<td>4.94%</td>
<td>6.87%</td>
<td>0.9, 0.27-3.49</td>
<td>0.97</td>
</tr>
<tr>
<td>Seroma</td>
<td>16.57%</td>
<td>17.85%</td>
<td>1.45, 1.06-1.98</td>
<td><strong>0.02</strong></td>
</tr>
<tr>
<td>Hematoma</td>
<td>2.86%</td>
<td>4.87%</td>
<td>2.21, 1.07-4.57</td>
<td><strong>0.03</strong></td>
</tr>
<tr>
<td>Wound Dehiscence</td>
<td>3.34%</td>
<td>8.47%</td>
<td>2.85, 0.92-8.85</td>
<td>0.07</td>
</tr>
<tr>
<td>Total SSO</td>
<td>36.88%</td>
<td>53.06%</td>
<td>1.99, 1.30-3.04</td>
<td><strong>0.002</strong></td>
</tr>
</tbody>
</table>
# Results

<table>
<thead>
<tr>
<th></th>
<th>BMI &lt; 30 kg/m²</th>
<th>BMI 30-35 kg/m²</th>
<th>BMI ≥ 35 kg/m²</th>
<th>OR, 95% CI (BMI 30-35)</th>
<th>P-value</th>
<th>OR, 95% CI (BMI ≥ 35)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seroma</strong></td>
<td>16.57%</td>
<td>21.38%</td>
<td>18.07%</td>
<td>1.39, 0.85-2.27</td>
<td>0.18</td>
<td>1.05, 0.56-1.99</td>
<td>0.87</td>
</tr>
<tr>
<td><strong>Wound Dehiscence</strong></td>
<td>3.34%</td>
<td>3.50%</td>
<td>9.86%</td>
<td>2.29, 0.18-8.96</td>
<td>0.52</td>
<td>3.31, 0.27-40.37</td>
<td>0.35</td>
</tr>
</tbody>
</table>
Limitations

• Small number of studies for quantitative synthesis
• Few outcomes with synthesizable data
• Few studies with data separated by obesity class
• Heterogeneity amongst studies used for wound dehiscence
Conclusions

• Obesity is associated with increased odds of seroma, hematoma, and total SSO
• Risk of complications does not continue to increase with higher obesity classes
Thank you!

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