Review

Safety and efficacy of synchronous panniculectomy and endometrial cancer surgery in obese patients: a systematic review of the literature and meta-analysis of postoperative complications

Prodromidou et al. Synchronous panniculectomy in endometrial cancer

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Abstract

Panniculectomy combined gynaecological surgery constitutes an alternative approach for endometrial cancer (EC) in obese patients. The present study aimed to accumulate the current knowledge on the safety and efficacy of combining panniculectomy in surgical management of EC. A total of 4 electronic databases were systematically searched for articles published up to May 2019. A total of 5 studies (2 non-comparative and 3 comparative) were included. Meta-analysis of complications among panniculectomy and conventional laparotomy group revealed no difference in complication rates (intraoperative or postoperative). Moreover, no difference was reported in surgical site complications ($p=0.59$), while wound breakdown rates were found significantly elevated in laparotomy group ($p=0.02$). Panniculectomy combined surgery for the management of EC is a safe procedure and presents comparable outcomes to those of conventional laparotomy with regards to complications and improved wound breakdown rates.

Keywords: Panniculectomy; endometrial cancer; obesity; lymphadenectomy; wound complications

Introduction

Endometrial cancer (EC) remains the most common gynaecological cancer in the United States (1, 2). In 2018, approximately 63,230 new cases of EC were diagnosed with over 11,350 cancer-related deaths while the relevant proportions from the Global Cancer Statistics were 382,069 and 89,929, respectively (1, 3). Moreover, obesity rates have escalated rapidly during the last decade while a steady increase of the disease is predicted, at least until 2030. Obese patients represent a particular patient population and thus require special management (4). Additionally, a significant correlation among obesity and development of various types of malignancies such as pancreatic, liver, breast and EC has been described (5). Obesity has not only been proposed as a risk factor for EC but also as an important technical obstacle for its surgical management. Panniculectomy is a frequently performed procedure by
plastic surgeons for the repair of abdominal wall malformations induced by massive weight loss (6). Compared to other aesthetic procedures, it has been associated with an increased risk of postoperative complications either wound related such as hematoma, seroma, wound infection and cellulitis or general such as venous thromboembolism (6). Recent studies reported a significant improvement in the incidence of complications after abdominoplasty due to the progress of the operative techniques and the perioperative care (7). Panniculectomy combined gynaecological surgery has been reported as a different approach to the peritoneal cavity and has gained wide acceptance, since it provides a more favourable surgical field whereas the associated complications can be well managed (8).

The aim of the present review was to accumulate the current knowledge on the safety and efficacy of combining panniculectomy on surgical management of patients with EC and to compare the outcomes with those of conventional surgery for EC.

Materials and methods

Study design

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed for the design of the present systematic review and meta-analysis. The search was based on the authors’ predetermined eligibility criteria (9). An independent search of the literature was performed by three authors (CI, AP, VP) who excluded overlaps and tabulated the selected indices in structured forms. No language restrictions were assigned. Prospective and retrospective studies, which were either comparative or non-comparative and addressed outcomes of women with EC who underwent surgical staging with concomitant panniculectomy were considered eligible for inclusion in the present systematic review. Reviews, case reports, abstracts and animal studies were excluded from analysis and tabulation.

Search strategy and data collection

A systematic search of the literature was conducted for articles published up to May 2019 searching PubMed (1966-2019), Google Scholar (2004-2019), Scopus (2004-2019), ClinicalTrails.gov databases, along with the references of the articles retrieved in full text. The key words which were used for the search were as follows: “endometrial cancer”, “uterine cancer”, “corpus cancer”, “panniculectomy”, “apronectomy”, “lymphadenectomy”. A limited number of keywords were used with the intent to assess an eligible number which could be easily searched and minimizing at the same way the potential loss of eligible articles. Articles that fulfilled or were considered to fulfil the eligibility criteria were retrieved in full text; all studies with more than 10 cases of obese women with EC, aged >18 years who underwent combination of surgical management for EC with panniculectomy, were included. Comparative and non-comparative studies reporting at least one postoperative outcome (operative time (OT), estimated blood loss (EBL), length of hospital stay (LOS), resected lymph nodes count (pelvic or para-aortic) and incidence of complications) were considered eligible for inclusion. We considered eligible the comparative studies which presented outcomes of obese patients who had surgery for EC with additional panniculectomy versus those who had did not undergo panniculectomy and received only the EC-related surgical procedures. The meta-analysis was based on the assessment of the complication rates as the primary outcome. The stages of selection of the recruited articles were schematically presented in Figure 1 which depicts the PRISMA flow diagram.

Quality assessment

The Methodological Index for Non-Randomized Studies (MINORS) was utilized to assess the quality of the recruited studies (10). MINORS is consisted of a quality assessment tool which was designed to estimate the non-randomized studies’ methodological adequacy. Due
to the fact that all the studies included in the present meta-analysis were non-randomized, we aimed to use the MINORS scale.

**Statistical Analysis**
The RevMan 5.3 software (Copenhagen: The Nordic Cochrane Centre, The Cochrane Collaboration, 2011) was used for the conduction of statistical meta-analysis. Confidence intervals (CI) were set at 95% whereas mean difference (MD) and odds ratios (OR) were used for the analysis. In all the examined parameters, the DerSimonian-Laird random effect model (REM) was utilized due to the expected significant heterogeneity of the studies (11). P-value <0.05 was set as the cut-off for statistical significance. Due to the fact that heterogeneity of the included studies may influence the methodological integrity of the tests, publication bias was not tested.

**Results**
Due to the high heterogeneity detected among the included studies and more specifically the discrepancy with regards to the way of interpretation of the examined parameters in comparative studies, meta-analysis of the results was precluded for most of the parameters. A meta-analysis was specifically performed for overall and surgical site complications. Therefore, for the remaining parameters a meticulous systematic review was conducted. The analysed indices were tabulated in 3 structured tables as follows: table 1, which included the main characteristics of comparative and non-comparative studies whereas in table 2 and table 3 main characteristics of the included patients and main intra- and postoperative outcomes were recorded.

**Excluded studies**
A total of 9 studies were excluded from the present systematic review. More specifically, 6 reported outcomes with regards to gynecologic oncology surgical procedures combined with panniculectomy and were initially considered eligible. After retrieving the full text, we noticed that no separated outcomes for patients operated for EC were provided and the study was excluded (12-17). Additionally, Cosin et al. and Micha et al. were not included due to limited patient number (18, 19). Finally, in the study by Patibandla et al. insufficient data made it not eligible for inclusion (20).

**Included studies**
Five studies, which enrolled case of patients who underwent surgery for EC with or without panniculectomy were finally recruited in the present study (21-25). More specifically, 2 studies were non-comparative and included 33 patients (21, 22) whereas the remaining 3 were comparative studies and evaluated results of 65 who received simultaneous laparotomy for EC and panniculectomy (Panniculectomy group) versus 416 who underwent only laparotomy for EC (Laparotomy group) (23-25).

**Quality assessment**
The MINORS scale that was utilized for quality assessment revealed methodological adequacy of the included studies and presence of low heterogeneity with regards to their quality. A mean score of 13.8 (SD:4.5) with a respective median score of 16 (range: 8-18) (Table 1) were calculated.

**Intraoperative and postoperative outcomes**
A total of 98 patients underwent surgery for EC and simultaneous panniculectomy. Seventy-seven women were of stages I/II EC and 9 had stages III/IV EC according to FIGO classification while for 12 patients staging was not reported (Table 2). Data of perioperative outcomes with regards to patients who underwent combined surgery, showed a median OT of 247.7min (range 90 to 355min) and a median estimated blood loss (EBL) of 486.5 (range 50
to 1200ml). The incidence of intraoperative complications was 8.5% \((n=5/59)\). Median LOS was found to be 6 days and ranged from 3 to 15 days. Concerning postoperative complications, a total of 25 patients (25.5%) presented with non-surgical site complications whereas 26 patients (26.5%) had surgical site complications. Among them, 13 were wound infections, 6 cellulitis, and 3 wound breakdowns while for the remaining patients’ data concerning the type of complication was not available (Table 3).

With regards to the comparative studies, as shown in Table 3, no difference in mean BMI among patients who underwent combined surgery and those who underwent only laparotomy was reported by the study by Wright et al. (24) whereas Ramzan et al. and Eisenhauer et al. reported significantly higher BMI in the panniculectomy group (23, 25). Intraoperative outcomes revealed a significantly prolonged OT in the panniculectomy group in comparison to laparotomy group in all of the included studies \((p<0.001)\) whereas EBL was not found different \((p>0.05)\). Respectively, no difference was reported with regards to LOS \((p>0.05)\). Pelvic lymph node dissection was performed in a proportion of 85.2% of patients in the panniculectomy group and in 57.2% in the laparotomy group (data from 2 studies) (24, 25). Among them, whereas Eisenhauer et al. reported significantly elevated count of harvested pelvic lymph nodes in patients of the panniculectomy group \((p=0.001)\) (25), Wright et al. did not find difference in mean pelvic lymph node count among the two groups \((p=0.199)\) (24). A total of 61% of patients from the panniculectomy group and 44% from laparotomy one had para-aortic lymphadenectomy (24, 25). Wright et al. noted significantly higher proportion of para-aortic lymph nodes dissected in panniculectomy group of patients when compared to women who underwent simple laparotomy \((p=0.032)\) (24). On the contrary, median para-aortic lymph node count did not differ among the two group of patients as reported by Eisenhauer et al. \((p=0.18)\) (25).

Meta-analysis of complications revealed no difference in overall complication rates (surgical site complications were excluded) among the two groups either in case of intraoperative or of postoperative complications (481 cases, OR 1.06 95% CI 0.31-3.58 \(p=0.93\) and 300 cases OR 1.49 95% CI 0.46-4.82 \(p=0.51\), respectively). Concerning surgical site complications, the overall effect did not reveal significant differences among Panniculectomy and Laparotomy group (481 cases OR 0.74 95% CI 0.25-2.21 \(p=0.59\)) (Figure 2). When the incision related parameters such as wound infection, cellulitis and wound breakdown were separately analyzed, statistical significance was noted only in wound breakdown rates which were found significantly elevated in patients who did not underwent panniculectomy (262 cases OR 0.14 95% CI 0.03-0.75 \(p=0.02\)) (Figure 3). The incidence of wound infection and cellulitis was not found different (262 cases OR 0.53 95% CI 0.11-2.44 \(p=0.41\) and 262 cases OR 0.93 95% CI 0.05-16.20 \(p=0.96\), respectively).

**Discussion**

The main target of the present systematic review was to evaluate the efficacy and safety of panniculectomy in selected cases of patients who underwent surgery for EC by assessing the main peri-operative outcomes which were provided by the recruited studies. According to the findings of our study, median OT was 247.7min, median EBL was 486.5ml while a similar prevalence of approximately 26% was observed in non-surgical site and surgical site complications among the included patients. Despite the prolonged OT in the panniculectomy group, EBL and LOS were comparable among patients who had panniculectomy combined surgery and no-panniculectomy EC surgery. Additionally, meta-analysis revealed no difference either in non-surgical site complications or in surgical site ones, whereas subgroup analysis of wound infection, cellulitis and wound breakdown revealed a difference only in the incidence of the latter.
Obese patients who undergo surgery for EC are potentially at higher risk of intra- or postoperative complications due to the excess of subcutaneous fat. To that end, application of panniculectomy has gained popularity as an additional procedure during surgery for the treatment of gynaecological malignancies and more specifically EC. Panniculectomy is a particular type of abdominoplasty, less radical than the latter. It was initially applied in multiparous women who presented with a prominent apron in their abdominal wall (26). Favourable cosmetic and medical outcomes have also been reported in obese patients or patients that lost weight and suffer from an excess abdominal skin (26, 27). The procedure involves removal of as much as excess adipose tissue that can be resected without leaving tension of the remaining tissue at closure. The rectus muscle and its sheath, that is usually morbid in patients with large pannus is then reconstructed (28). An attempt of umbilicus preservation is made. More specifically, a scalpel is usually utilized for the transverse skin incisions and an electrosurgical source is used for the excision of the underlying subcutaneous tissue. The procedure precedes entering to the peritoneal cavity, which is made through a midline incision. At the end of the procedure, the abdominal flaps are closed with sutures to the subcutaneous tissue and placement of drainage and the skin is also sutured.

In the present study, about one fourth of patients who underwent gynecological surgery combined with panniculectomy presented with either non-surgical site or surgical site complications postoperative complications. Despite the fact that those rates could be considered relatively high, there are in agreement to those reported by other studies, which examined the efficacy of panniculectomy combined surgery in obese patients with gynecological malignancies (29, 30). More specifically, a retrospective study by Rasmussen et al. evaluated postoperative complications after panniculectomy combined with a gynecologic procedure such as hysterectomy (simple or radical) or laparotomy for ovarian cancer staging (29). The overall complication rates were 31.3% whereas most of them were consisted of superficial cellulitis (28.3%) (29). Furthermore, according to a comparative study by Forte et al. no significant differences were detected with regards to overall and wound related complications among patients who underwent panniculectomy combined hysterectomy and those who had hysterectomy alone (30). Similarly, the present meta-analysis revealed no difference in wound infection rates and cellulitis among the patients included. On the contrary, the authors indicated that the significantly increased wound breakdown rates in the simple laparotomy group are potentially due to the excessive pannus that remained after surgery in this group.

Lymph node yield could be considered as a quantitative method of evaluation of the efficacy of panniculectomy on an improvement in the vision of the surgical field during surgical management of EC. In that setting, a potential increase in the count of resected lymph nodes could indicate the superiority of panniculectomy combined surgery for EC (20). Based on the findings of the present study, concerning pelvic lymph node yield, according to Eisenhauer et al. the resected lymph node count was significantly increased in patients who also had panniculectomy compared to those who underwent simple laparotomy (25). However, no difference was detected among the two groups by Wright et al. (24). However, data is still limited in the field and further studies are warranted to confirm the hypothesis.

Considering the fact that panniculectomy is a relatively rare procedure for non-cosmetic indications with the simultaneous advances of minimally invasive procedures in the management of EC could raise high suspicion with regards to the exact indications of this procedure. Nonetheless, in case of obese and extremely obese patients minimally invasive surgery still remains challenging taking into consideration the technical difficulties that are related to excess fat and can impact on the visualization, the radicality of the procedure and the operative times (31). Panniculectomy combined procedures could be considered as an alternative for patients with high BMI. Outcomes from the included studies indicate the
safety of the procedure despite the fact that they derive from small retrospective studies. Additionally, the precise indications of the procedure, the BMI above which patients could benefit from the procedure along with the extent of pannus are not properly identified. To that end, Ramzan et al suggested that patients with BMI of more than 60 kg/m² as well as patients who will require lymph node dissection could be considered as candidates for panniculectomy (23). However, further randomized controlled trials, which evaluate the outcomes after minimally invasive surgery, simple laparotomy and panniculectomy-combined laparotomy are needed so as to identify the most appropriate approach according to each BMI and designate the candidates for panniculectomy.

Before reaching to firm conclusions, there are some limitations that need to be addressed. First of all, the retrospective nature of the articles included along with their heterogeneity constitute significant limitations. Furthermore, all the studies included were non-randomized which further limits the interpretation of the exact role of patients' characteristics as confounders. Concerning the comparative studies, the control groups were not matched with regards to patient characteristics. Consequently, the panniculectomy group included patients with significantly greater BMI compared to control in two of the recruited studies, which limits our findings. In addition to this, definition of obesity presented heterogeneity among the included studies. Therefore, potential bias with regards to selection and attrition bias and selective reporting may subject our outcomes. In some studies, report of the outcomes measures was inadequate especially with regards to continuous parameters such as lymph node yield in which outcomes different ways were utilized for the interpretation of the results and thus some were not included in the analysis. Accordingly, oncological outcomes were underreported by the included studies. More specifically, disease free survival and overall survival rates were only available in the study by Wright et al. who reported comparable rates among the two groups (24). Furthermore, the small sample sizes of the included patients in each group constituted a further limitation of our study. Finally, assessment of publication bias was not feasible concerning the small size of the studies included.

Conclusions
Panniculectomy combined surgery for the management of EC can be considered a safe procedure in selected patients and presents with comparable outcomes to conventional laparotomy procedures with regard to non-surgical and surgical site complications and improved wound breakdown rates. However, those outcomes must be cautiously interpreted taking into account the limited number of included studies and their retrospective nature. The present meta-analysis is to the best of our knowledge the only in this field which assessed postoperative results of patients who had panniculectomy combined surgery for EC in obese patients. There is a need for further larger-volume studies with the intend to define the optimal approach, specify the group of obese patients with EC who could benefit from panniculectomy and elucidate the efficacy of panniculectomy in enhancing the lymph node yield in those patients.

References

<table>
<thead>
<tr>
<th>Table 1. Characteristics of included studies</th>
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<tbody>
<tr>
<td><strong>Year; Author</strong></td>
</tr>
<tr>
<td>Non-comparative studies (laparotomy+panniculectomy)</td>
</tr>
</tbody>
</table>
Comparative studies (laparotomy+panniculectomy vs laparotomy)

- **2015; Ramzan**: RS, 17/24 patients had hysterectomy-based surgical staging; no sarcoma, endometrial hyperplasia, and metastatic cancer to the endometrium.
- **2007; Eisenhauer**: RS, 16/24 patients had surgical staging for endometrial cancer; patients with BMI ≥35 kg/m² had peritoneal washing, AH and bilateral salpingo-oophorectomy in intact ovaries, pelvic and para-aortic lymphadenectomy.
- **2004; Wright**: RS matched, 18/24 patients had AH and bilateral salpingo-oophorectomy in intact ovaries, pelvic and para-aortic lymphadenectomy.

**Table 2. Characteristics of included patients**

<table>
<thead>
<tr>
<th>Year; Author</th>
<th>Patient No</th>
<th>Age (years)</th>
<th>BMI (kg/m²)</th>
<th>Stage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-comparative studies (laparotomy+panniculectomy)</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2011; Crosbie</td>
<td>21</td>
<td>58 (34–74)a</td>
<td>49 (37-64)a</td>
<td>0:2, I: 15, IIa:2 , IIIc:2</td>
<td>N/A: 2, 1: 10, 2:6, 3:3</td>
</tr>
<tr>
<td>1999; Powell</td>
<td>12</td>
<td>51 (38–65)a</td>
<td>51 (35–76)a</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Comparative studies (laparotomy+panniculectomy vs laparotomy)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015; Ramzan</td>
<td>11 vs 208</td>
<td>48.0 ±11.7b vs 55.6 ±11.4b</td>
<td>60.4 ±11.9b vs 35.7 ±10.8b p&lt;0.001</td>
<td>I: 10 vs 128 , II:0 vs 14 ,III:1 vs 31 , IV: 0 vs 35</td>
<td>1: 10 vs 99 2:1 vs 39 3: 0 vs 70</td>
</tr>
<tr>
<td>2007; Eisenhauer</td>
<td>27 vs 154</td>
<td>56 (37–78)a vs 60 (25–84)a</td>
<td>49 (35–64)a vs 41 (35–84)a p=0.001</td>
<td>I-II: 26 vs 142, III-IV: 1 vs 12</td>
<td>1: 13 vs 91 2: 8 vs 31 3: 6 vs 32</td>
</tr>
<tr>
<td>2004; Wright</td>
<td>27 vs 54</td>
<td>54,8c vs. 56,2c</td>
<td>49.8 (27 – 84)a vs 44.1 (30 – 69)a p&gt;0.05</td>
<td>I:18 vs 40 , II: 4 vs 8 , III: 4 vs 5, IV: 1 vs 1</td>
<td>1:17 vs 30 2: 5 vs 15 3: 5 vs 9</td>
</tr>
</tbody>
</table>

*aMedian (range), bMean±SD, cMean*
### Table 3. Main intra-and postoperative outcomes

| Year; Author | Operative time (min) | Blood loss (ml) | Hospital stay (days) | No of resected Pelvic LN | No of aortic LN | Surgical site complications N(%) | Intraoperative complications* N(%) | Postoperative complications* N(%) | Wound infection N(%) | Cellulitis N(%) | Wound breakdown N(%) | Surgical site complications N(%) | Intraoperative complications* N(%) | Postoperative complications* N(%) | Wound infection N(%) | Cellulitis N(%) | Wound breakdown N(%) | Mortality N(%) |
|--------------|----------------------|----------------|---------------------|--------------------------|----------------|----------------------------------|-----------------------------------|----------------------------------|------------------|----------------|----------------|-----------------|----------------|---------------------------------|----------------------------------|-------------------|----------------|----------------|----------------|
| Non-comparative studies (laparotomy+panniculectomy) |
| 2011; Crosbie | 192 (148-240)\(^c\) | 497 (200-1000)\(^c\) | 9 (8-12)\(^a\) | N/A | N/A | 7/21 | 0/21 | 5/21 | 4/21 | 2/21 | 1/21 | 0/11 | \*No surgical site complications, LN: Lymph node, \(^a\)Median (range), \(^b\)Mean±SD, \(^c\)Mean (range) |
| 1999; Powell | 166 (120-225) | 500 (100-1200) | 7 (3-10) | N/A | N/A | 3/12 | N/A | 3/12 | 0/12 | 0/12 | 1/12 | 0/12 |
| Comparative studies (laparotomy+panniculectomy vs laparotomy) |
| 2015; Ramzan | 395 ±133 vs 260 p<0.001 | 436 ±301 vs 486 ±548 p=1.0 | 4 (3-11) vs 4 (2-41) p=1.0 | N/A | N/A | 4/11 vs 57/208 | 0/11 vs 15/208 | 4/11 vs 34/208 | N/A | N/A | N/A | 0/11 vs 1/208 |
| 2007; Eisenhauer | 265 (171–355) vs 164 (40–368) p<0.001 | 250 (50–700) vs 200 (40–2200) p=0.07 | 6 (4–15) vs 6 (4–56) NS | N/A | N/A | 5/27 vs 54/154 | 5/27 vs 61/154 | 3/27 vs 48/154 | N/A | N/A | N/A | 0/27 vs 24/154 |
| 2004; Wright | 247.7 vs 206.7 p=0.001 | 486.5 vs 417.6 p=0.180 | 6 vs 5,3 p=0.417 | 16.2 vs 13.6 p=0.199 | 4.3 vs 2.9 p=0.032 | 9/27 vs 17/54 | 5/27 vs 6/54 | 8/27 vs 13/54 | 6/27 vs 4/54 | 1/27 vs 0/54 | 1/27 vs 0/54 | 1/27 vs 0/54 |

*No surgical site complications, LN: Lymph node, \(^a\)Median (range), \(^b\)Mean±SD, \(^c\)Mean (range)*
Figure 1. Search flow diagram
**Figure 2.** Forest plot depicting surgical site complication

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Approteomy Events</th>
<th>Total</th>
<th>Control Events</th>
<th>Total</th>
<th>Weight</th>
<th>M-H, Random, 95% CI</th>
<th>Odds Ratio M-H, Random, 95% CI</th>
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<tr>
<td>2004, Wright</td>
<td>9</td>
<td>27</td>
<td>17</td>
<td>54</td>
<td>37.3%</td>
<td>1.09 [0.41, 2.91]</td>
<td></td>
</tr>
<tr>
<td>2007, Eisenhauer</td>
<td>3</td>
<td>27</td>
<td>54</td>
<td>154</td>
<td>31.6%</td>
<td>0.23 [0.07, 0.80]</td>
<td></td>
</tr>
<tr>
<td>2015, Ramzan</td>
<td>4</td>
<td>11</td>
<td>57</td>
<td>208</td>
<td>31.1%</td>
<td>1.51 [0.43, 5.37]</td>
<td></td>
</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>65</strong></td>
<td><strong>416</strong></td>
<td><strong>100.0%</strong></td>
<td></td>
<td>0.74 [0.25, 2.21]</td>
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<td></td>
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<tr>
<td>Total events</td>
<td>16</td>
<td>128</td>
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</tbody>
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Heterogeneity: $\text{Tau}^2 = 0.58$, $\text{Chi}^2 = 5.33$, df = 2 ($p = 0.07$); $I^2 = 62$
Test for overall effect: $Z = 0.54$ ($p = 0.59$)

**Figure 3.** Forest plot depicting wound breakdown rates

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Approteomy Events</th>
<th>Total</th>
<th>Control Events</th>
<th>Total</th>
<th>Weight</th>
<th>M-H, Random, 95% CI</th>
<th>Odds Ratio M-H, Random, 95% CI</th>
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<tr>
<td>2004, Wright</td>
<td>1</td>
<td>27</td>
<td>10</td>
<td>54</td>
<td>64.2%</td>
<td>0.17 [0.02, 1.40]</td>
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<tr>
<td>2007, Eisenhauer</td>
<td>0</td>
<td>27</td>
<td>24</td>
<td>154</td>
<td>35.8%</td>
<td>0.10 [0.01, 1.64]</td>
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</tr>
<tr>
<td><strong>Total (95% CI)</strong></td>
<td><strong>54</strong></td>
<td><strong>208</strong></td>
<td><strong>100.0%</strong></td>
<td></td>
<td>0.14 [0.03, 0.75]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events</td>
<td>1</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heterogeneity: $\text{Tau}^2 = 0.00$, $\text{Chi}^2 = 0.10$, df = 1 ($p = 0.75$); $I^2 = 0$
Test for overall effect: $Z = 2.29$ ($p = 0.02$)