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Panniculectomy Performed in Conjunction with Gynecologic Surgery in the Morbidly Obese Patient - a NSQIP Analysis and Meta-Analysis of the Literature

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Background

The panniculectomy is a common procedure in plastic surgery which is often employed in patients who have undergone weight loss but also in patients who are still obese. One example involves the combination of panniculectomy in morbidly obese patients with various gynecologic procedures. The rationale for this combination is based on the premise that the panniculectomy decreases complications or improves outcomes in these patients [1].



Figure 1: Supersize panniculectomy after gastric bypass surgery in a 30 year old patient with consecutive weight loss of. Preoperation (A,B) and postoperation (C,D) [2].

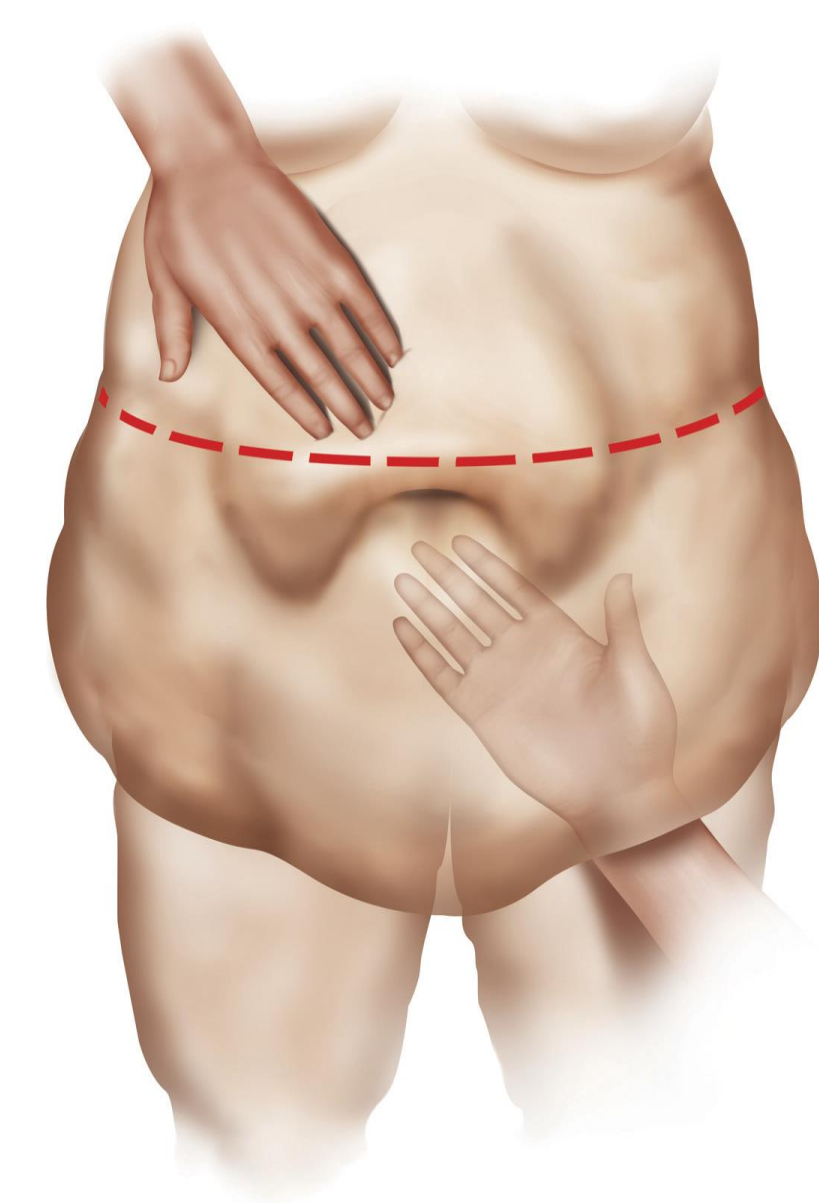


Figure 2: The pannus is marked at superior border to define the proposed extent of the elliptical resection [2].

Studies of this combination of procedures often make unsubstantiated claims that this will reduce complication rates, infections, operative time, blood loss, wound necrosis and generally make these procedures safer. [1].

These studies fail to provide proof of these claims for reasons including study design, the inclusion of both morbidly obese and non-morbidly obese patients and as well as a lack of comparative data [4].

Medical practice in recent years has focused increasingly on minimizing patient morbidity and trends in reimbursement are moving towards penalizing practices which increase complications. One patient variable which has been demonstrated to be consistently associated with increased morbidity in surgery is morbid obesity.

This study was designed as a meta-analysis to determine if there is a statistically significant benefit of performing panniculectomy in conjunction with gynecologic surgery in the morbidly obese patient population.

Methods

- The NSQIP database was reviewed to assess the association of complications with panniculectomy combined with gynecologic surgery in the morbidly obese patient
- The query identified 296 patients who had panniculectomy concomitant with gynecologic surgery and had a BMI greater than 30 out of almost 47000 patients (0.63% of patients undergoing those procedures).
- 5 studies were identified that included comparative cohorts and which specifically compared gynecologic surgery with and without additional panniculectomy. These studies differ in design details but a meta-analysis of the combined results was conducted [4-8].

Results

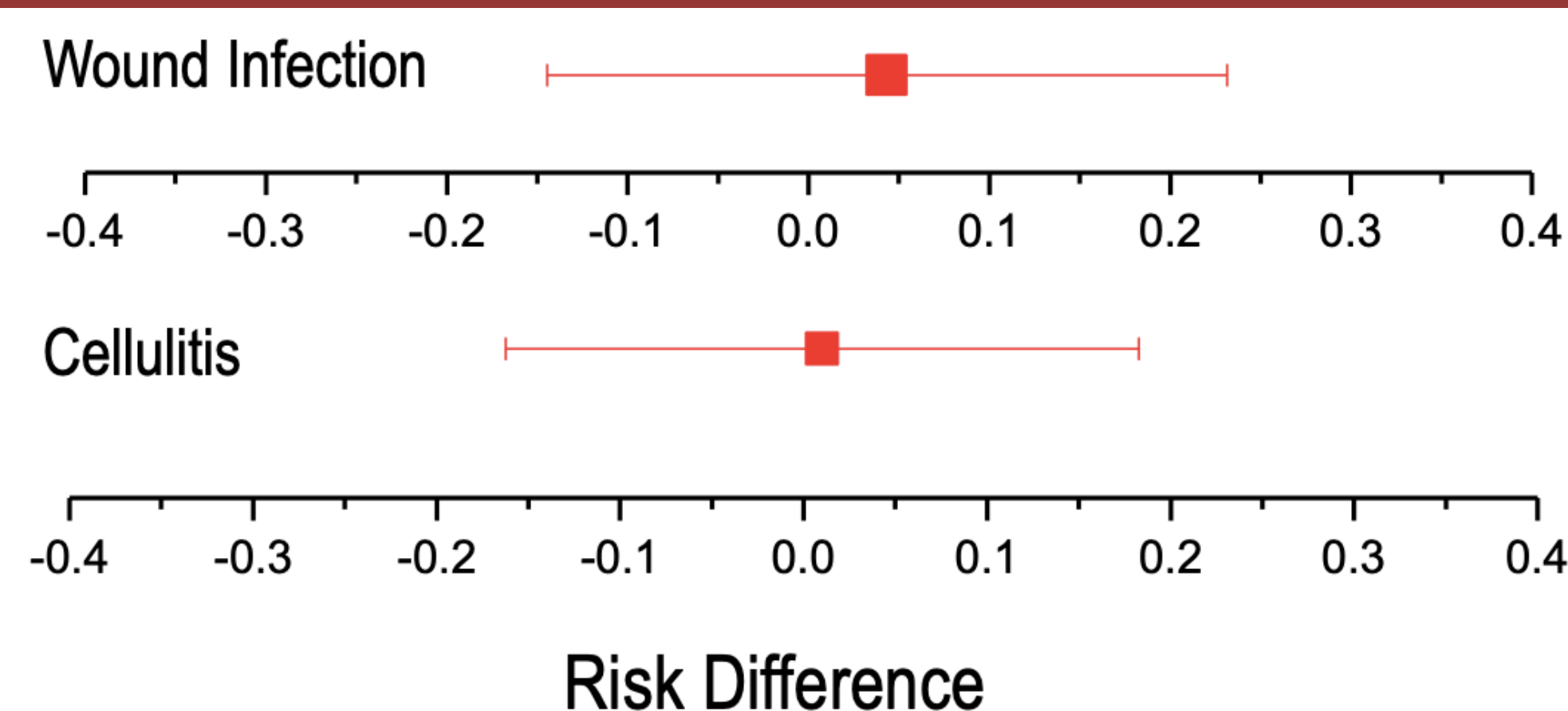


Figure 3a. Composite results from meta-analysis of 5 studies including comparative cohorts for gynecologic surgery with and without panniculectomy

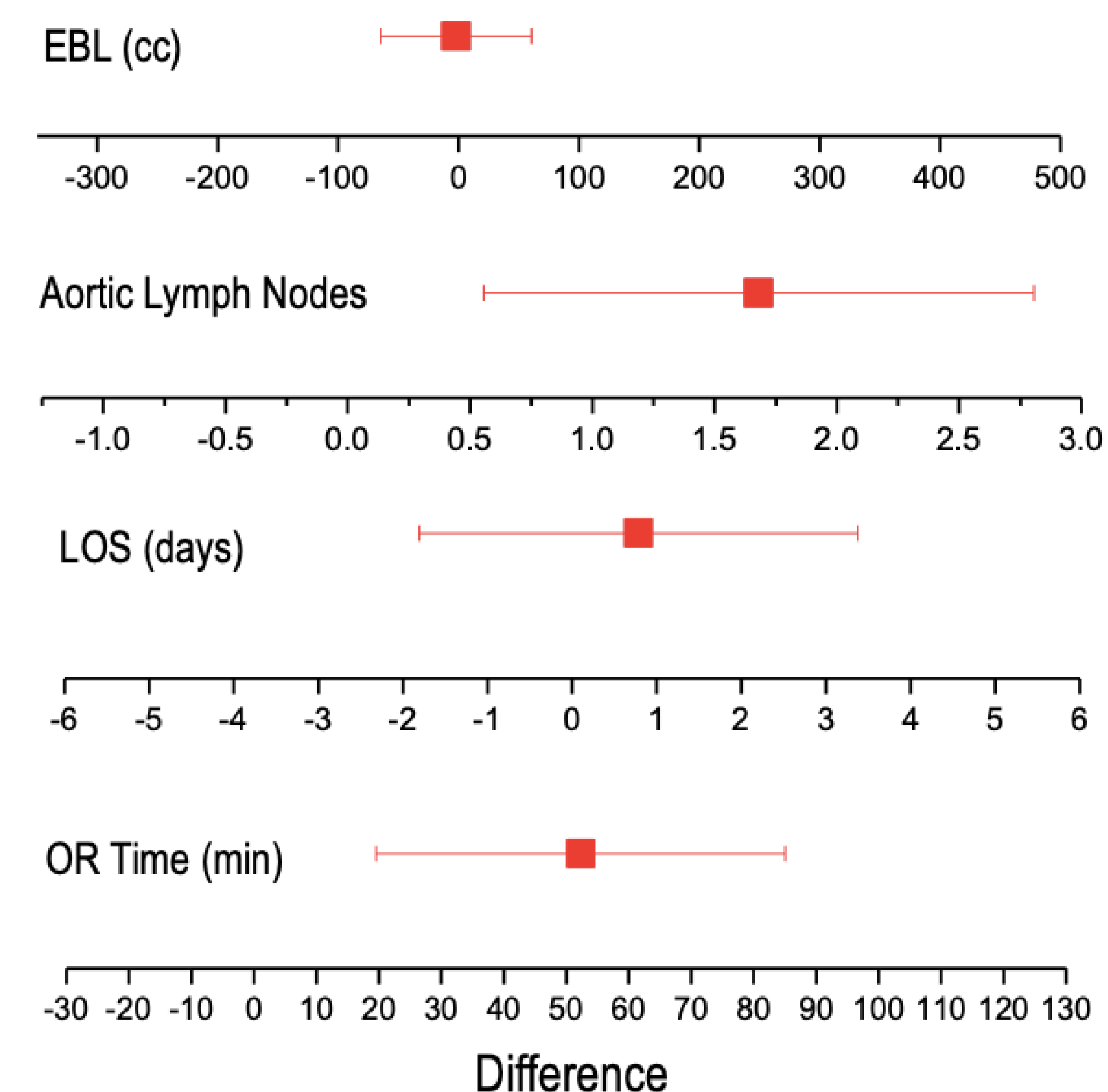


Figure 3b. Composite results from meta-analysis of 5 studies including comparative cohorts for gynecologic surgery with and without panniculectomy. EBL= Estimated blood loss; LOS= length of stay

- NSQIP analysis (n=296) results demonstrated a statistically significant relationship ($P < .05$) of panniculectomy performed in conjunction with gynecologic surgery procedures with complications including superficial infection, wound infection, estimated blood loss, systemic sepsis, return to OR and length of operation.
- A meta-analysis of the combined results demonstrated no significant and consistent benefit across the studies in measured parameters including estimated blood loss, length of stay, cellulitis, and wound infection. Operative time was significantly greater with panniculectomy.
- Aortic lymph node yield was significantly greater in patients undergoing panniculectomy.

Conclusion/Discussion

- Our review of the existing literature does not support the premise that there is a statistically significant benefit to patients of performing panniculectomy in conjunction with gynecologic surgery in the morbidly obese patient population. The NSQIP database, the largest cohort database available in the literature, confirms significant risks.
- In the light of the risks to patients and current direction of medical practice the addition of elective panniculectomy to gynecologic surgery should be re-considered in the morbidly obese patient population.

Future Readings/Citations

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