Risk Factors for Pannus Formation in the Post-Bariatric Population

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Abstract

Background: Several studies have described a correlation between pannus mass and complication rates in the setting of panniculectomy. Elucidating the factors influencing pannus mass may allow for better management of the post-bariatric surgery population by minimizing pannus development and consequently panniculectomy-related complication rates. This study aimed to identify patient variables associated with greater pannus mass.

Methods: A retrospective review was conducted for two hundred twenty patients that had undergone laparoscopic Roux-en-Y gastric bypass from 1996 to 2010 and subsequent panniculectomy, which was performed at a time when body mass indices (BMI) had stabilized. Outcome measures included age, gender, BMI, resected pannus weight, and pre-bariatric comorbidities. Comorbidities assessed included hypertension, type II diabetes, obstructive sleep apnea, depression, anxiety, and smoking. Overall BMI decrease was defined as the difference between pre-gastric bypass and pre-body contouring BMI. Patients were excluded on the basis of incomplete data or less than one year of follow-up. Non-parametric continuous and nominal variables were assessed using Spearman’s rank-correlation and Mann-Whitney U tests, respectively. Statistical significance was established at p<0.05.

Results: One hundred thirty-eight patients (126 women, 12 men; mean age, 45 years) were included in analysis. All patients had body contouring surgery greater than one year out from bariatric surgery (mean time interval, 2.5 years). Mean BMI at the time of bypass, one year out from bypass, and at time of body contouring surgery was 49.6 kg/m², 30.8 kg/m², and 30.0 kg/m², respectively. Average pannus weight was 2.8 kg. Larger pannus mass was associated with older age at gastric bypass surgery (p = 0.026) and higher pre-gastric bypass BMI (p = 0.046). While greater decrease in BMI during the first year following gastric bypass surgery (p = 0.018) correlated with greater pannus mass, overall BMI decrease did not. No association with the presence or resolution of pre-bariatric comorbidities was observed.

Conclusions: Performing bariatric surgery at a younger age, reducing BMI as much as possible prior to bariatric surgery, and opting for operations like gastric banding that allow for more gradual weight may be useful approaches to minimize symptomatic pannus formation.

References

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