



Does Degree of Liver Fibrosis Predict Post-operative Complications in Patients Undergoing Bariatric Surgery? A Retrospective Single Center Experience

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BACKGROUND

Nonalcoholic fatty liver disease (NAFLD) is a prevalent disease in obese with significant long-term risks. Bariatric surgery is known to slow and even reverse the progression of NAFLD, making these important operations for this population. In order to determine the safety of bariatric surgery in patients with advanced NAFLD, we compared post-operative outcomes in patients with NAFLD and marked fibrosis to those with low fibrosis.

METHODS

We retrospectively identified patients with NAFLD who underwent primary bariatric operations, either laparoscopic/robotic sleeve gastrectomy (SG) or laparoscopic/robotic Roux-en-Y gastric bypass (RYGB), at a single institution from 2011 to 2018. Degree of fibrosis was determined with the aspartate aminotransferase (AST) to platelet ratio index. Demographic data, baseline comorbidities, perioperative data and 30 days outcomes were examined. Descriptive statistics and two tailed analysis were performed using Kruskal-Wallis test for continuous variables and Fisher's exact test for categorical variables.

RESULTS

A total of 413 patients with NAFLD were identified and categorized into: Marked fibrosis (18.16%), intermediate fibrosis (54%) or low fibrosis (27.84%) groups according to their AST to platelet ratio index. Age, BMI, and number of co-morbidities were higher in patients with marked fibrosis ($P < 0.0001$). Operative time for SG was prolonged in the marked fibrosis group ($P < 0.0001$), though this was not observed for RYGB. Estimated blood loss and number of intraoperative complications were not statistically different. Analysis of 30-day complications, 30-day readmission, and 30-day reoperation did not reveal any statistical difference. Also, length of stay was statistically unchanged.

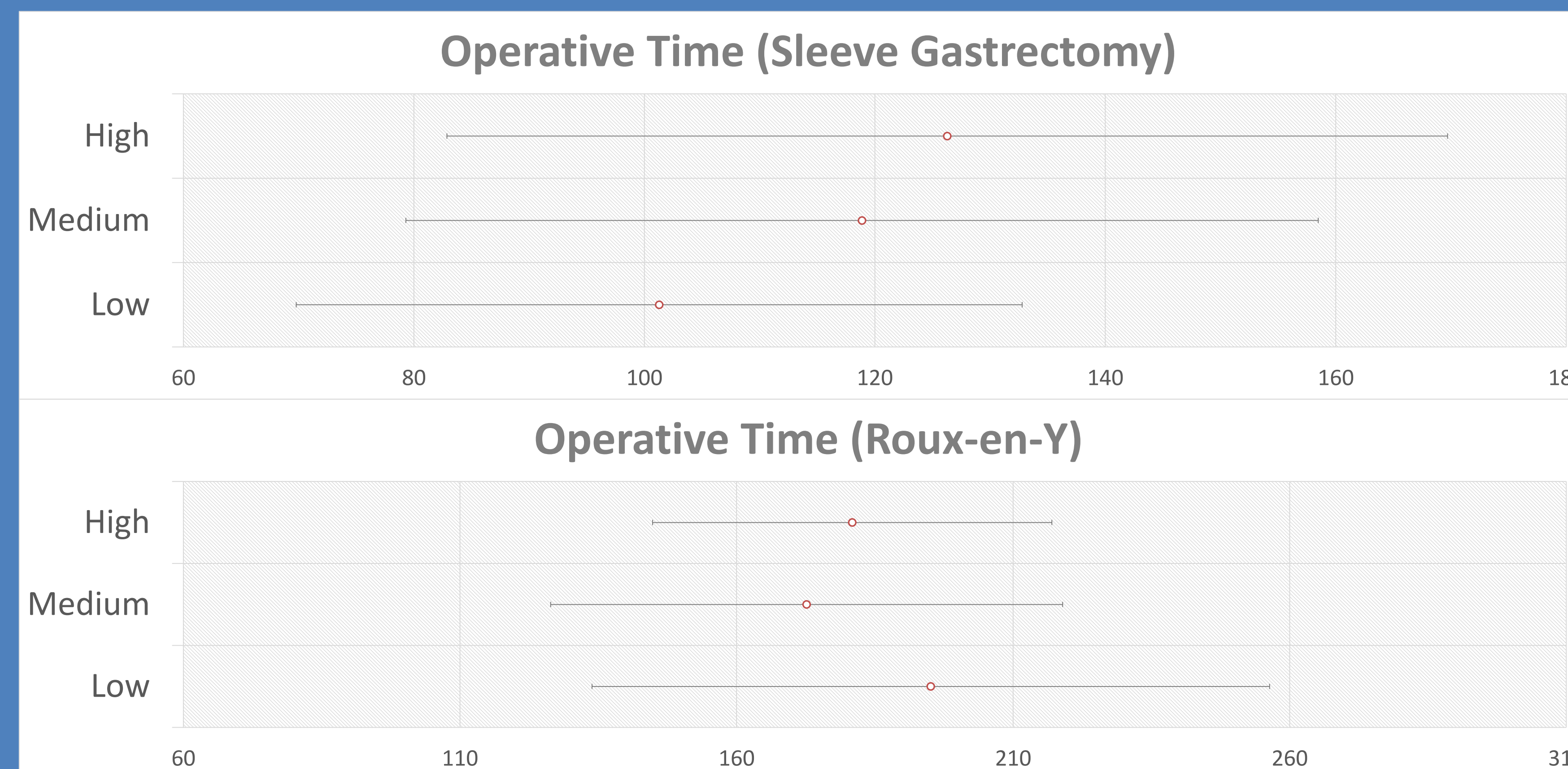


Fig 1. Operative time in minutes (Mean +/- SD) for SG and RYGB divided based on fibrosis score.



Fig 2. Rate (%) of 30-day reoperation, readmission, or complication for SG and RYGB, divided based on High, Intermediate, or Low Fibrosis Score

CONCLUSIONS

Our study found no difference in perioperative or 30-day post-operative complication rate based on non-invasive liver fibrosis scores, even though patients with worse fibrosis had more pre-operative co-morbidities. This suggests that bariatric surgery can be safely performed even in patients with marked fibrosis without significantly worse complications.