



Anesthesia's Crystal Ball – Does ASA Class Accurately Predict Post-operative Complications in Bariatric Surgery Patients? An MBSAQIP Analysis.

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BACKGROUND

American Society of Anesthesiologist (ASA) Physical status classification has been used widely to classify a patient's physical state prior to an operation. The aim of our study is to evaluate the association between ASA class and post-operative complications after primary bariatric surgeries.

METHODS

Using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) 2017's database, data regarding patients undergoing either a Laparoscopic Sleeve gastrectomy (L-SG) or Laparoscopic Roux-en-Y gastric bypass (L-RYGB) were retrieved. Demographic data, baseline characteristics, perioperative data and 30 day outcomes were examined. Descriptive statistics were performed; Kruskal Wallis test was used for continuous variables and Chi-Square analysis was used for categorical variables. Logistic regression analysis was performed to compare the event rates among the ASA classes. Spearman correlation coefficient between ASA Class and post-operative complications categorized into Clavien-Dindo Classification was also calculated.

RESULTS

A total of 171,169 patients were identified; 26.7 % underwent L-RYGB whereas 73.3% underwent L-SG. The breakdown among ASA class was: ASA I 0.3%, ASA II 22.1 %, ASA III 73.8%, ASA IV 3.4%, and ASA V < 0.0001%. ASA I and V were excluded from our analysis. After adjusting for all the pre-operative characteristics, ASA class is significantly associated with 30 day mortality, 30 day readmission, and 30 day reoperation, adjusted p value; $P < 0.01$, < 0.0001 , and 0.04 respectively. Overall mortality was less than 1%.

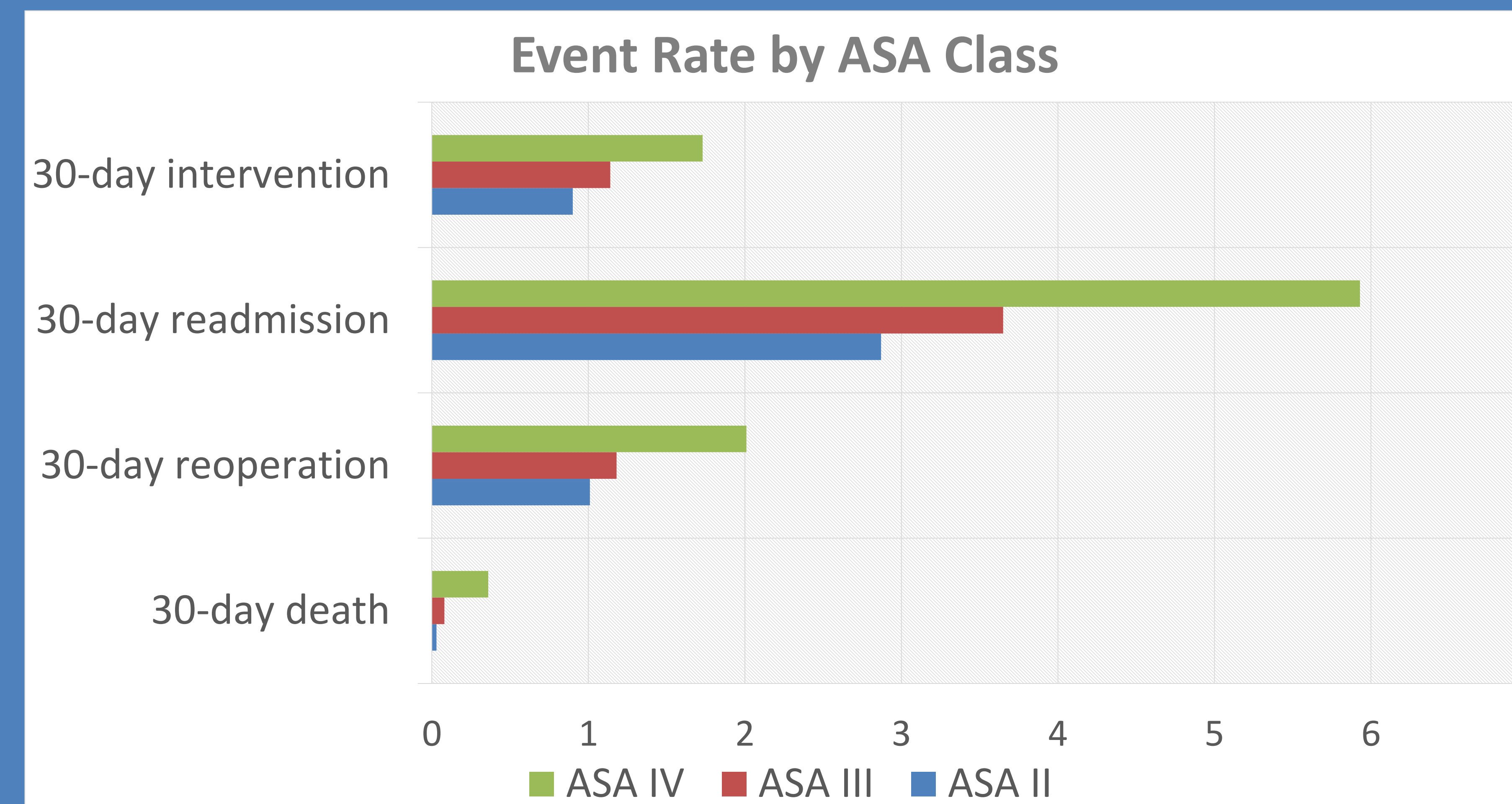


Fig 1. Event rate (%) for 30-day intervention, readmission, reoperation, and death separated by ASA class and adjusted for patient factors

Complications by Severity, ASA II-IV

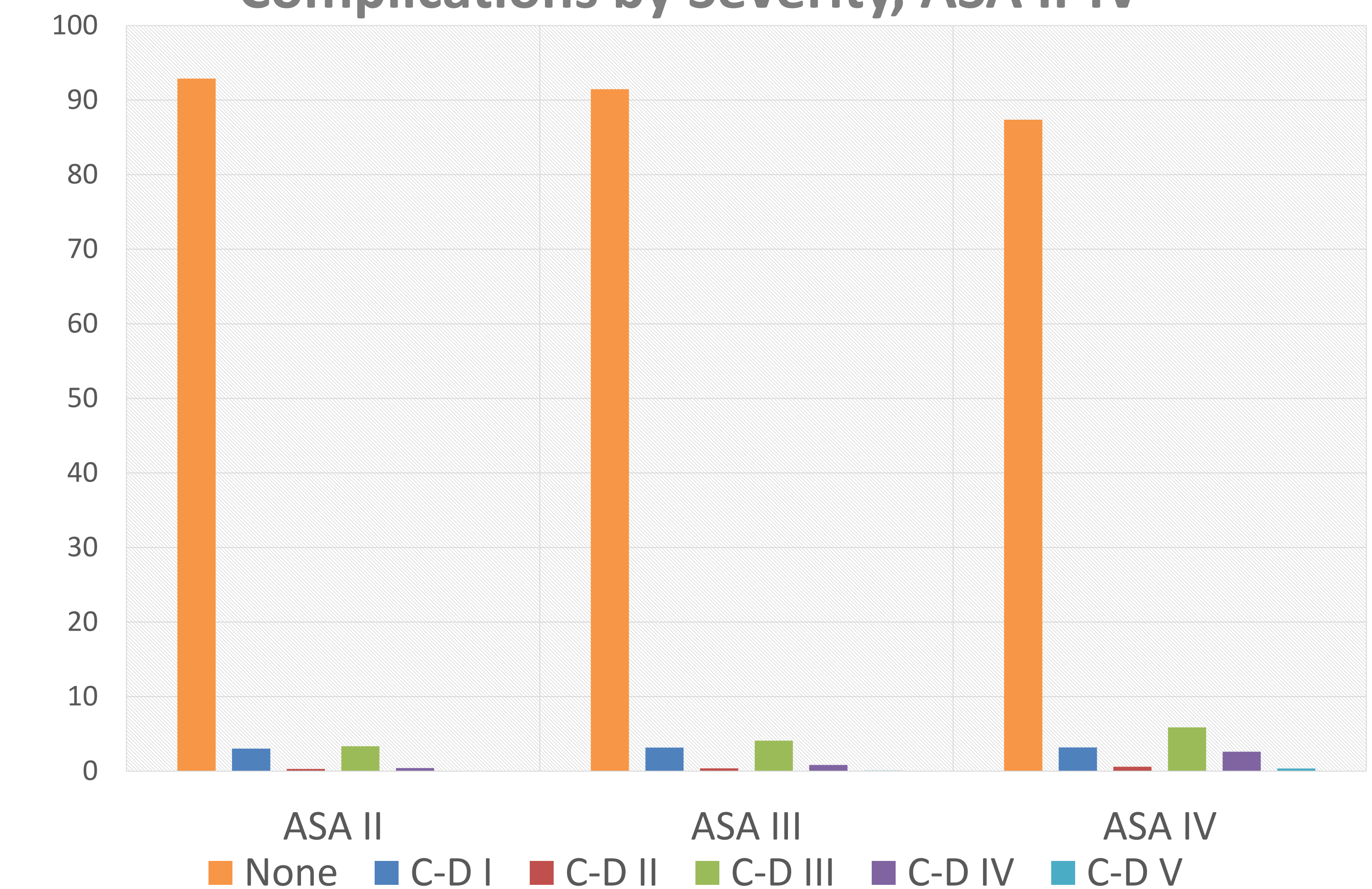


Fig 2. Complication rate (%) by Clavien-Dindo score for each ASA class. None = No complication, C-D I = Clavien-Dindo I etc.

CONCLUSIONS

ASA was associated with overall post-operative complications after bariatric surgery. Though the study showed a correlation between ASA class and complications, even at ASA IV the overall complication rate was extremely low. The presence of statistical significance likely results from our large sample size, and given our low overall complication rate, it is appropriate to conclude that even in patients that fall under a high ASA class (III-IV), both L-SG and L-RGYB are safe operations.