

OUTCOMES FROM OPEN VS. LAPAROSCOPIC GASTRIC BYPASS



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INTRODUCTION

Bariatric Surgery outcomes are dramatically improved from 2 decades ago. Data from the Agency for Healthcare Research and Quality (AHRQ) found that this improvement has been directly linked to improved experience of surgeons and particularly the growth of laparoscopic surgery (MIS).(1)

OBJECTIVES

The purpose of this study was to compare clinical outcomes and costs from Roux-en-Y Gastric Bypass (RYGB) performed via open or MIS.

METHODS

We analyzed outcomes for discharges or encounters between 2016 and 2018 using the Vizient® Clinical Data Base (CDB), a comparative database with discharge and line-item data from more than 350 member institutions including 97% of academic medical centers in the United States. We selected ICD-10 procedure codes for RYGB. Other bariatric procedures such as Sleeve Gastrectomy, Gastric Banding, Duodenal Switch and revision procedures were excluded.

METHODS continued

Demographic data, Length of Stay (LOS), readmissions, complications, in-hospital mortality and costs were reviewed. Patients undergoing open RYGB were compared to those undergoing MIS RYGB. For bivariate analysis, Wilcoxon rank-sum test was used for continuous variables and Chi-Square test was used for categorical variables. Multiple logistic regression models were developed to assess factors associated with in-hospital mortality and 30-day readmission. Multivariable Negative Binomial and quantile regression models were used to analyze LOS and cost respectively.

RESULTS

Of 16,199 total patients, 566 underwent open and 15,633 laparoscopic RYGB. Patients in the open gastric bypass surgery group were significantly older (54 vs. 44 years, $p<0.0001$), and had higher percentage of male (27% vs. 18%, $p<0.0001$). Open RYGB patients had significantly higher length of stay, readmission rate, in-hospital mortality rate and total cost.

RESULTS

Variable	Open (N=566)	Laparoscopic (N=15633)	P-value
Length of Stay (days), Median(IQR)	5(3-11)	2(1-2)	<0.0001
30 day Readmission, n (%)	91(16.1)	882(5.6)	<0.0001
In-hospital Mortality, n (%)	18(3.2)	13(0.1)	<0.0001
Total Direct Cost (\$), Median (IQR)	13616(8891-23390)	8185(6554-10680)	<0.0001

Table 1. Bivariate Comparison of Outcomes

Adjusted for all other factors, open RYGB patients had 17.8 times greater odds of in-hospital death, (CI 8.1-39.2, $p<0.0001$); 2.99 times greater odds of 30-day readmission (CI 2.35-3.8, $p<0.0001$); 4.1 times greater length of stay (CI 3.9-4.4, $p<0.0001$) and median cost \$5048 higher (CI 4239-5858, $p<0.0001$), compared to laparoscopic RYGB.

CONCLUSIONS

- Open RYGB is associated with worse outcomes compared to Laparoscopic RYGB.
- The routine application of open RYGB needs to be re-evaluated.

REFERENCES

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