Safety of Concomitant Liver Biopsy During Bariatric Surgery: An Analysis of the MBSAQIP Database

Barajas-Gamboa J[1], Mocanu V[2], Wills M[2], Shin T[3], Romero-Velez G[2], Allemang M[2], Strong A[2], Navarrete S[2], Corcelles R[2], Guerron AD[2], Rodriguez J[1], Kroh M[2], Dang J[2]

[1]Digestive Disease Institute, Cleveland Clinic Abu Dhabi, UAE, [2] Digestive Disease Institute, Cleveland Clinic, OH, [3]University of Virginia, Charlottesville, VA

Background

- **Concomitant liver biopsy (CLB) during bariatric surgery** has gained interest for **diagnostic** and **research** purposes, particularly in studying obesity-related liver disease
- This study aimed to evaluate the **30-day rate of serious complications and mortality** associated with CLB during bariatric surgery using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (**MBSAQIP**)

Materials and Methods

- Retrospective analysis of the MBSAQIP database from **2020 to 2022** was conducted
- Patients undergoing primary Roux-en-Y gastric bypass (**RYGB**) or sleeve gastrectomy (**SG**) with or without concomitant liver biopsy were included
- **Primary** outcomes were **30-day serious complications and mortality. Secondary** outcomes included **operative time, length of stay, and specific postoperative complications**. Multivariable logistic regression analysis was also performed

Results

Variables	Patients with CLB (N=30,819)	Patients without CLB (N=481,162)	P-value
Age in years, mean ± SD	43.81 ± 11.88	43.15 ± 11.74	<0.001
Males, N (%)	5,925 (19.23)	85,869 (17.85)	<0.001
BMI in kg/m², mean ± SD	45.71 ± 7.82	45.02 ± 7.63	<0.001
Hypertension, N (%)	8,708 (28.25)	108,934 (22.65)	<0.001
Insulin-dependent diabetes	6,122 (19.86)	79,902 (16.61)	<0.001
Operative time in minutes, mean ± SD	96.10 ± 49.60	83.59 ± 49.18	<0.001
Postoperative Bleeding, N (%)	341 (1.11)	4,122 (0.86)	<0.001
Reoperation, N (%)	331 (1.07)	4,407 (0.92)	0.005
Readmission, N (%)	1,023 (3.32)	13,759 (2.86)	<0.001
Anastomotic Leak, N (%)	70 (0.23)	972 (0.20)	0.343
Deep Surgical Site Infection, N (%)	113 (0.37)	1,443 (0.30)	0.039
Serious Complications, N (%)	971 (3.15)	13,004 (2.70)	<0.001
Death, N (%)	112 (0.36)	1,680 (0.35)	0.681

Results

Multivariate Regression	Adjusted odds ratio	95% confidence interval	P-Value
Serious complications	0.91	0.79-1.04	0.164
30-day readmission	1.06	0.94-1.21	0.344
Age (per 10 years)	1.08	1.04-1.1	<0.001
History of myocardial infarction	1.8	1.46-2.22	<0.001
Operative time (per hour)	1.0	1.00-1.00	<0.001
Chronic kidney disease	2.01	1.55-2.62	<0.001

Conclusion

- CLB during bariatric surgery is associated with **increased operative time and higher complication rates** in bivariate analysis
- However, when accounting for patient factors using logistic regression analysis, **it does not independently increase** the risk of serious complications, readmission, or mortality