Black-vs-White Racial Disparities in 30-Day Outcomes Following Revisional Bariatric Surgery: a MBSAQIP Database Analysis

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BACKGROUND

- Previous studies demonstrated Black-vs-White disparities in post-operative outcomes following primary bariatric surgery, including higher complications, readmission, and mortality.[1-5]
- Bariatric surgery is a common procedure with a subsequent rise in revisional surgery cases, accounting for 17% of American bariatric cases in 2019.[6]
- There is a lack of evidence examining racial disparities in revisional surgery outcomes.

OBJECTIVE

To determine if there a Black to White racial disparity in 30-day post-operative outcomes following revisional bariatric surgery.

METHODS

Study Design: Observational cohort study

Study Population: Black or White race adults who underwent revision RYGB, SG, DS or OAGB

- RYGB = Roux-en-Y gastric bypass
- SG = sleeve gastrectomy
- DS = duodenal switch
- OAGB = one-anastomosis gastric bypass

Data Source: 2015-2020 Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP)

47913 eligible patients included in the analysis

- 24023 revision RYGB
- 21481 revision SG
- 2226 revision DS
- 183 revision OAGB

Propensity Score (PS) Matching (One-to-one matched pairs)

	Before Matching	After Matching
Black	10838	10657
White	37075	10657

Comparison of 30-day post-operative outcomes

Statistical Methods: Paired analyses were conducted on 12 outcomes using McNemar's test with Benjamini-Hochberg procedure (Table 1).

RESULTS

Propensity Score Matching

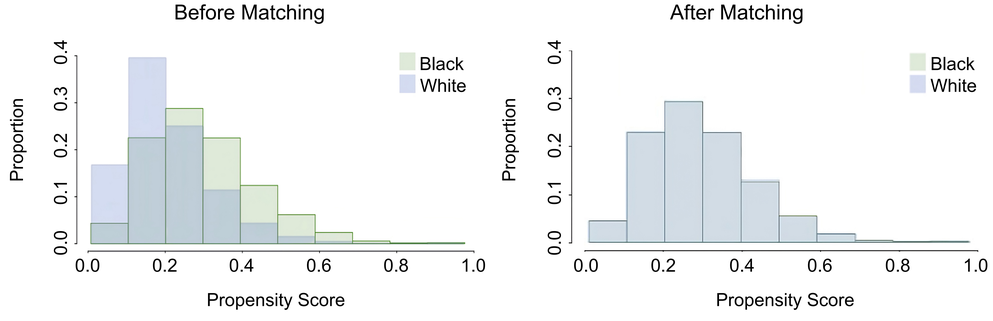


Figure 1. Histograms show similar proportions of PS in Black and White cohorts after matching.

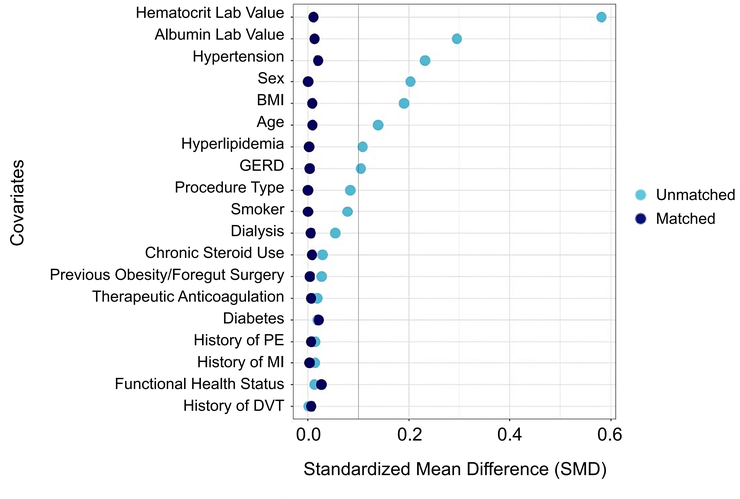


Figure 2. SMDs of covariates before and after PS matching show that covariate balance was achieved post-match.

Table 1. Paired comparison of 30-day post-operative outcomes in propensity score matched cohorts of Black-vs-White patients

Outcomes	Black N=10657 n (%)	White N=10657 n (%)	Adjusted *p*-values
Death	15 (0.14)	16 (0.15)	1
Morbidity	479 (4.49)	545 (5.11)	0.11
All Occurrence Morbidity	1021 (9.58)	978 (9.18)	0.775
All Cause Reoperation	306 (2.87)	313 (2.94)	0.943
Related Reoperation	59 (0.55)	50 (0.47)	0.83
All Cause Readmission	790 (7.41)	658 (6.17)	0.005*
Related Readmission	473 (4.44)	383 (3.59)	0.011*
All Cause Intervention	295 (2.77)	283 (2.66)	0.858
Related Intervention	182 (1.71)	170 (1.6)	0.83
Serious Event	421 (3.95)	439 (4.12)	0.83
Bleeding	161 (1.51)	157 (1.47)	0.943
Surgical Site Infection	170 (1.6)	222 (2.08)	0.036*

*p<0.05

CONCLUSION

- Post-operative outcomes were similar between Black and White adults who underwent revisional bariatric surgery, excluding all cause readmission, related readmission, and surgical site infection.
- These results differed from previous findings of racial disparities in primary bariatric surgery.[1-5]
- Further elucidating the patient-, procedure-, and system-level differences between primary and revisional bariatric surgery may provide insights into addressing the racial disparities demonstrated after primary bariatric procedures.

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