WEIGHT LOSS AND RESOLUTION OF OBESITY CO-MORBIDITIES VARY BY HEALTH INSURANCE STATUS AFTER LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS (LRYGB): AN ANALYSIS OF 73,604 BOLD DATABASE PATIENTS

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Objective/ Background: In the obesity epidemic, morbidly obese patients have the greatest risk of severe weight-related medical problems. LRYGB has been the gold standard among bariatric operations. In managing these medically fragile patients, every clinical insight helps. While pre-operative characteristics of LRYGB patients differ according to health care carrier, whether or not outcomes following LRYGB also vary by insurance is unknown. The objective of this study was to identify variations in weight, BMI, and resolution of obesity co-morbidities after LRYGB by health insurance status.

Methods: Data from 73,604 BOLD patients who underwent LRYGB was analyzed retrospectively in four groups: Medicaid (n=3,305), Medicare (n=8,643), Private (n=60,163), and Self-Pay (n=1,493). Outcomes analysis used General linear models that included baseline and post-operative data, and were modified for binomial distribution of dichotomous variables.

Results: Age: Medicaid 49+-10, Medicare 54+-12, Private 44+-11, Self-Pay 44+-12 ($p<0.0001$). At 12 months: Medicare weight, BMI (= to Medicaid), hypertension (HTN), sleep apnea (OSA), angina, diabetes, liver disease, dyslipidemia, musculoskeletal pain, and gout were highest ($p<0.01$). Medicaid had highest obesity hypoventilation syndrome (OHS), asthma, cholelithiasis, and GERD ($p<0.01$), and abdominal hernia ($p<0.05$). Neither Medicare nor Medicaid resolved any co-morbidity better than Private or Self-Pay. Self-Pay had lowest BMI (= to Private), HTN, angina, OSA, OHS, asthma, cholelithiasis, GERD, liver disease, dyslipidemia, musculoskeletal pain ($p<0.01$), and abdominal hernia ($p<0.05$). Private achieved lowest BMI, weight, and gout ($p<0.001$). Medicare liver disease increased at 18 and 24 months while declining in others ($p<0.05$).

Overall, Medicare had the highest post-op weight and BMI, the highest rates of 18 co-morbidities, and lowest in none. Medicaid had the highest weight (2, 6 months) and BMI (with Medicare), highest rates of 9 co-morbidities and lowest in alcohol use. Private had lowest weight and BMI (with Self-Pay), lowest in 4 co-morbidities, and highest alcohol consumption. Self-Pay had the lowest rates of 23 co-morbidities and was highest in none.

Results:6,24months	Medicaid	Medicare	Private	Self-Pay	p-value
Age	49+-10	54+-12	44+-11	44+-12	<0.0001
Weight (kg)	102+-25, 85+-21	102+-24, 88+-23	96+-21, 84+-19	98+-23, 84+-20	<0.004,<0.05
BMI	37+-7, 32+-7	34+-12, 32+-7	34+-6, 30+-6	36+-7, 30+-6	<0.0001,<0.05
Hypertension	42.77%,33.01%	57.56%,46.63%	38.21%,26.30%	34.81%,24.14%	<0.01,<0.05
Angina	3.67%,1.94%	4.06%,4.74%	1.71%,1.45%	0.96%,1.15%	<0.05,NS
OSA	40.94%,29.61%	44.25%,32.67%	31.28%,18.80%	26.89%,12.64%	<0.01,<0.05
OHS	3.33%,7.28%	3.80%,3.74%	1.09%,0.94%	0.96%,1.15%	<0.05,NS
Asthma	26.87%,29.61%	21.37%,16.71%	14.19%,11.54%	11.40%,8.05%	<0.0001,<0.05
Abdominal Hernia	7.01%,8.25%	6.51%,7.98%	4.85%,5.16%	4.20%,3.45%	NS, <0.05
Cholelithiasis	25.12%,34.95%	24.47%,27.93%	16.77%,22.80%	13.31%,12.64%	<0.0001,<0.05
GERD	35.28%,38.83%	38.90%,30.92%	27.85%,21.30%	18.13%,12.64%	<0.05,<0.05
Liver Disease	8.02%,11.17%	7.76%,6.48%	6.86%,4.46%	3.72%,2.30%	<0.05,<0.05
Diabetes	22.57%,13.59%	32.73%,22.44%	18.31%,10.30%	17.17%,10.34%	<0.001,<0.001
Gout	3.24%,2.91%	5.75%,4.99%	2.67%,1.91%	2.52%,1.15%	<0.001,NS
Hyperlipidemia	31.42%,22.33%	44.29%,37.66%	31.23%,22.29%	27.25%,13.79%	<0.0001,<0.05
Musculoskeletal Pain	40.84%,41.75%	47.26%,39.9%	32.62%,25.57%	28.45%,22.99%	<0.001,<0.05

Conclusions: Clinical outcomes following LRYGB vary according to health insurance status. Medicare patients resolved obesity co-morbidities least effectively, possibly related to the years this older population had been obese. Medicaid and Medicare both fared less well than did Private and Self-Pay. Self-Pay resolved co-morbidities most often. It is important for surgeons to recognize significant variations in the response to LRYGB. Understanding outcomes differences by health insurance status can facilitate choosing LRYGB for individual patients, and may help optimize planning for post-LRYGB management.