Demographics, Weight/BMI and Weight-Related Medical Complications Vary by Health Insurance in 146,159 Surgical Patients with Obesity

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Introduction

Objective: To identify clinical variation by health insurance status in pre-operative surgical patients with obesity.

The obesity epidemic now requires all surgeons, not just bariatric specialists, to operate on and manage patients with severe obesity. In these medically complex and fragile patients, every clinical insight helps. Therefore, advanced knowledge of pre-operative clinical characteristics may help reduce complications.

Methods

Pre-operative data from a total of 146,159 Surgical Review Corporation BOLD patients undergoing LRYGB (n=83,059), Open RYGB (n=5,389), LAGB (n=67,514), SLEEVE (n=8,966), or BPD/DS (n=1,673) was analyzed in four groups: Self-Pay (n=7,085), Private (n=117,612), Medicaid (n=5,115) and Medicare (n=16,347). Statistical analyses performed includes ANOVA and Chi-squared.

Results

	Medicare	Medicaid	Private	Self	*P*-valve
Demographics					
Age (yrs)	55.7 +/- 11.8	39.5 +/- 10.5	44.4 +/- 10.9	43.8 +/- 11.7	<0.0001
Weight (kg)	133.3 +/- 30.2	136.5 +/- 29.8	129.9 +/- 25.9	129.8 +/- 30.1	<0.0001
Female/Male (%)	74.3/25.7	86.8/13.2	78.5/21.5	76.8/23.2	<0.0001
Employment Status-Unemployed (%)	76	44	10.1	10.6	<0.0001
	Medicare	**Medicaid**	**Private**	**Self**	***P*-valve**
Race					
African American	17.1%	17.1%	11.0%	3.8%	<0.0001
Caucasian	78.0%	61.2%	75.7%	82.6%	<0.0001
Hispanic	5.0%	16.4%	7.4%	8.8%	<0.0001
Asian	0.4%	0.3%	0.1%	0.1%	<0.0001
Other	5.3%	5.2%	5.7%	4.5%	<0.0001
	Medicare (%)	**Medicaid (%)**	**Private (%)**	**Self (%)**	***P*-valve**
Cardiovascular					
Angina	5.7	4.3	2.2	1.7	<0.0001
Hyperlipidemia	57.7	35.3	40.4	34.8	<0.0001
Ischemic Heart Disease	11.4	3.6	3.5	2.3	<0.0001
Lower Extremity Edema	40.4	32.6	26.2	20.7	<0.0001
Hypertension	77.1	54.1	56.4	48	<0.0001
Congestive Heart Failure	7.2	3.1	1.4	1	<0.0001
Peripheral Vascular Disease	3.2	1.3	0.9	0.6	<0.0001
Pulmonary					
Pulmonary Hypertension	6.1	4.5	4.2	2.6	<0.0001
Asthma	24.5	26.1	16.3	12.1	<0.0001
DVT/PE	6	3.3	2.3	1.6	<0.0001
Obstructive Sleep Apnea	57.6	50.2	43.5	33.9	<0.0001
Obesity Hypoventilation Syndrome	4.6	2.3	1.5	1.2	<0.0001
Abdominal/Hepatobiliary					
Abdominal Hernia	8.3	6.9	4.8	4	<0.0001
Abdominal Panniculitis	10.1	11.2	6.3	5.7	<0.0001
Gastroesophageal Reflux	53.8	49.9	45.8	39.6	<0.0001
Cholelithiasis	28.8	24.2	19	14.6	<0.0001
Stress Urinary Incontinence	30	26.9	22.3	20.4	<0.0001
Liver Disease	7.3	7.7	6.2	3.6	<0.0001

Table 1: Variation by health insurance status in pre-operative clinical characteristics of surgical patients with obesity.

Discussion

The results of this study indicate that, across the entire spectrum of age, race, weight, BMI and weight-related medical problems, the pre-operative clinical characteristics of surgical patients with severe obesity vary by health insurance status. Medicaid patients have the highest weight/BMI, liver disease, and psychological/behavioral issues, but are youngest, with fewer other life-threatening co-morbidities. Private and Self-Pay patients have the lowest weight/BMI, drink the most, but are lowest in serious weight-related problems, including liver disease. Medicare patients are the oldest and carry the highest rates of 27 obesity related co-morbidities.

Conclusions

Access to this clinical knowledge in advance may raise surgeons' pre-operative index of suspicion, when confronted with severely obese patients, especially Medicare, to the relative risks of dangerous co-morbidities. As a result, targeted pre-operative cardiopulmonary, endocrine/metabolic, abdominal/hepatobiliary and psychological/behavioral evaluation, planning and management by all surgeons caring for patients with obesity could lead to minimized peri-operative morbidity and maximized salubrious outcomes.