Variation in Clinical Characteristics of Women Versus Men Pre-Operative for Laparoscopic Roux-En-Y Gastric Bypass (LRYGB): Analysis of 83,059 Patients

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Background

Every surgeon now is confronted with morbidly obese patients, where each clinical insight helps management. In this milieu, variation by sex in the pre-operative clinical characteristics of obese female and male patients is not well-defined. Objective: to identify clinical differences between morbidly obese women and men seeking LRYGB.

Methods

Data from 83,059 patients in the Surgical Review Corporation's BOLD database who were about to undergo LRYGB was analyzed in two groups: Women (n=65,325) and Men (n=17,734). Statistics: Analysis of variance and the Chi-squared equation.

Results

Clinical data of LRYGB women and men are detailed in the Table. Age (47.5+-11.5 vs 44.5+-11.5) and BMI (49.0+-8.6 vs 47.3+-7.7) were higher for men ($p<0.0001$). Female African-American (11.9% vs 7.4%) and Medicaid (6.8% vs 4.0%) were higher ($p<0.0001$) Cardiopulmonary obesity co-morbidities (hypertension, CHF, sleep apnea, angina, DVT/PE, ischemic heart disease, peripheral vascular disease, pulmonary hypertension, obesity hypoventilation syndrome) affected more men than women ($p\leq0.0002$). Female asthma was higher ($p<0.0001$). Diabetes, gout, and dyslipidemia were higher for men ($p<0.0001$). Abdominal hernia and liver disease were higher in men, but women had GERD, cholelithiasis, and abdominal panniculitis more often ($p<0.0001$). Back pain, musculoskeletal pain, mental health disorders, depression, and impaired psychological status were more common in women ($p<0.0001$). Alcohol and tobacco use and substance abuse were higher for men ($p<0.0001$).

Overall, 14 obesity –related medical conditions were manifested more frequently among men, and 9 among women, excluding menstrual irregularities and polycystic ovarian disease. Of the 31 categorical parameters analyzed, only lower extremity edema did not vary by sex.

Conclusion

Among pre-operative LRYGB patients, men are older, smoke and drink more, and have increased cardiopulmonary, metabolic, and liver disease than do women. Female somatic pain, gallstones, mental health diagnoses and functional disability are higher. This advance knowledge may facilitate choice of operation and aid the management of LRYGB patients.

Extrapolated to the increasingly obese surgical patient population overall, clinical application of the findings here also may contribute to optimized outcomes for morbidly obese patients who need non-bariatric operations.

Female Versus Male Variation in Morbid Obesity Medical Co-Morbidities and Psychological/Behavorial Parameters

Cardiopulmonary	Asthma	Hypertention	Obstructive Sleep Apnea	Lower Extremity Edema	Angina
Female	20.34	56.93	43.32	30.14	2.59
Males	12.77	73.22	65.35	30.38	3.95
Chi-Square Probability	<0.0001	<0.0001	<0.0001	0.5358	<0.0001

	CHF	DVT/PE	Ischemic Heart Disease	Obesity Hypovent Synd	PVD	Pulmonary Hypertention
Female	1.78	2.77	3.16	1.68	0.97	4.79
Males	4.13	3.29	8.9	2.63	2.01	5.46
Chi-Square Probability	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	0.0002

Endocrine/Metabolic	Fibromyalgia	Glucose Metabolism	Menstrual Irregularity	PCOS	Pseudotumor Cerebri	Dyslipidemia	Gout
Females	4.4	35.94	30.64	6.97	2.71	40.88	2.48
Males	0.65	49.94	0.01	0	0.92	52.62	8.38
Chi-Square Probability	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Abdominal/Hepatobiliary	Abdominal Hernia	Cholelithiasis	GERD	Abdominal Panniculitis	Liver Disease	Stress Incontinence
Females	4.41	24.86	51.54	7.99	6.88	30.18
Males	7.58	9.47	43.11	6.43	8.29	4.24
Chi-Square Probability	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Musculoskeletal	Back Pain	Impaired Functional Status	Musculoskeletal Pain
Females	50.46	3.22	46.81
Males	47.74	3.85	44.99
Chi-Square Probability	<0.0001	<0.0001	<0.0001

Psychological/Social	Alcohol Use	Depression	Mental Health Diagnosis	Psychological Impairment	Substance Abuse	Tobacco Use
Females	29.94	39.8	12.45	19.06	0.39	6.18
Males	34.72	25.05	7.32	12.99	0.67	8.24
Chi-Square Probability	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001