

Introduction

- Diverticular disease is a common finding in developed countries.
- The most common complications of diverticular disease are bleeding and diverticulitis.
- It is proposed that physical activity or BMI may be associated with the prevalence or complications of diverticular disease.
- Obesity has come to attention with the recent trends in the United States and worldwide.

Aim

- We aimed to compare diverticular disease in patients with and without morbid obesity.

Methods

- This was a retrospective cohort study with data from the Nationwide Inpatient Sample (NIS) database for 2016, 2017, and 2018.
- The study population consisted of hospitalizations with principal diagnosis of diverticular disease, identified by International Classification of Disease-10 (ICD-10) code K57.
- Patients were divided into 2 subgroups based on a secondary diagnosis of morbid obesity, identified by ICD-10 code E6601.
- The primary outcome was comparing inpatient mortality.
- Secondary outcomes included rate and adjusted odds of several complications of admission.
- We used the Chi-square test to compare characteristics between the two groups.
- P value had 0.05 as the threshold for statistical significance.

Results

- A total of 1,173,634 patients were included.
- 75,559 patients had a diagnosis of morbid obesity.
- Patients with morbid obesity were more female (65.3% versus 55.7%, $P < 0.001$). They also had lower mean age (56.8 versus 65.0 years, $P < 0.001$), higher proportion of Black (19.1 versus 11.4%, $P: 0.000$) and Hispanic race (11.5 versus 10.0%, $P: 0.000$), and higher proportion of low household income (31.8% versus 26.1%, $P: 0.000$).
- The odds of in-hospital mortality were lower in the group with morbid obesity (OR: 0.75, 95% CI: 0.57-0.97, $P: 0.032$), however, the odds of sepsis and mechanical ventilation were higher (OR:1.56, 95% CI: 1.38-1.76, $P < 0.001$ and OR:1.79, 95% CI: 1.54-2.08, $P < 0.001$ respectively).

Table 1: Clinical Outcomes in Hospitalizations with Diverticular Disease With and Without Morbid Obesity

Outcome	No Obesity	Obesity	OR (95% CI)	P-value*
Mortality	0.005	0.004	0.93 (0.70-1.22)	0.585
PPCC	0.21	0.27	1.58 (1.13-2.21)	0.007*
Sepsis	1.37	2.11	1.56 (1.38-1.76)	<0.001*
MI	0.43	0.30	0.85 (0.61-1.18)	0.323
Intubated	0.62	1.02	1.68 (1.40-2.00)	<0.001*
Mechanical Ventilation	0.85	1.46	1.79 (1.54-2.08)	<0.001*
Needed Pressors	0.22	0.18	0.88 (0.58-1.33)	0.534
AKI	9.67	11.39	1.35 (1.27-1.43)	<0.001*
ARF	1.34	2.02	1.59 (1.41-1.81)	<0.001*
PE	0.31	0.42	1.60 (1.24-2.08)	<0.001*
CVA	0.17	0.13	1.07 (0.60-1.93)	0.810
Blood Transfusion	8.94	7.44	1.00 (0.93-1.07)	0.907

*: Statistically significant, OR: Odds Ratio, CI: Confidence Interval
 PPCC: Post Procedural Cardiac Complications
 MI: Myocardial Infarction
 AKI: Acute Kidney Injury
 CVA: Cerebrovascular Accident
 ARF: Acute Respiratory Failure
 PE: Pulmonary Embolism

Discussion

- Patients with morbid obesity who were admitted due to diverticular disease were younger, more from lower quartiles of income and racial minorities.
- Morbid obesity was associated with higher odds of sepsis and mechanical ventilation; however, the mortality was lower.

Contact

Katayoun Khoshbin
 John H Stroger Hospital of Cook County, Chicago, IL
 Email: katayounkhoshbin@gmail.com