Poster 18: Impact of BMI: A comparison of national versus institutional surgical outcomes among patients with endometrial cancer

Presenting Author: Ananya G. Reddy, MPH, Washington University in St. Louis School of Medicine

Topic
Endometrial

Objectives
In 2023, the prevalence of obesity in the Midwest was 36.0%, the highest of any US region. Obesity is associated with poor surgical outcomes and is also a known risk factor for the development of endometrial cancer. Our institution, located in the Midwest, sees a patient population with a higher BMI than average, raising concern for increased surgical complications. This study aims to compare surgical complication frequency after hysterectomy for patients with endometrial cancer between our institution and national data.

Methods
Patients who underwent hysterectomy for endometrial cancer (ICD-9 codes 179, 182, 182.1, 182.8; ICD-10 codes C54, C54.1, C54.9) between 2013 – 2023 were identified from both NSQIP data and our institution. Cases with missing BMI or BMI < 18.5 kg/m² were excluded. BMI distribution was compared using Welch's t-test and chi-square analysis. Surgical complication frequencies were calculated, and national and institutional frequencies were compared using chi-square analysis.

Results
Patients seen at our institution (n = 1432) had significantly higher BMI compared to national data (n = 71485) (mean [SD]: 36.3 [9.3] vs 35.1 [9.4]; 72.8% vs 66.8% with BMI ≥ 30; $p < 0.0001$). Complications were uncommon both nationally and institutionally, with the most common complication being post-operative bleeding (national: 3.74%, institutional: 3.91%, $p = 0.74$). Post-operative urinary tract infections occurred more frequently nationally than institutionally (national: 2.23%, institutional: 1.40%, $p = 0.03$). No significant differences were observed in frequencies of superficial incisional surgical site infection (SSI), deep incisional SSI, organ space SSI, wound disruption, pneumonia, unplanned intubation, pulmonary embolism, failure to extubate, post-operative renal insufficiency, cardiac arrest, myocardial infarction, post-operative bleeding, deep vein thrombosis, sepsis, septic shock, unplanned re-operation, or death within 30 days.

Conclusions
Despite higher BMIs in our institution's patient population, surgical complication frequencies were not increased. Moreover, urinary tract infections were more frequent nationally than at our institution. The rarity of these outcomes may limit the power to detect small differences in surgical complication frequency.

Uploaded File(s)
Abstract Table or Graph

Table 1: Comparison of national and institutional surgical complication rates.

Complication	NSQIP (%)	Institution (%)	p-value
Superficial incisional SSI	1.80	1.68	0.73
Deep incisional SSI	0.27	0.14	0.34
Organ space SSI	1.34	0.98	0.23
Wound disruption	0.35	0.14	0.18
Pneumonia	0.44	0.42	0.91
Unplanned intubation	0.28	0.28	0.98
Pulmonary embolism	0.47	0.63	0.38
Failure to extubate > 48 hours	0.17	0.07	0.36
Postoperative renal insufficiency	0.35	0.56	0.18
Urinary tract infection	2.23	1.40	**0.03**
Cardiac arrest requiring CPR	0.11	0.14	0.74
Myocardial infarction	0.20	0.28	0.53
Post-operative bleeding	3.74	3.91	0.74
Deep vein thrombosis	0.38	0.42	0.82
Sepsis	0.64	0.35	0.17
Septic shock	0.25	0.14	0.40
Unplanned re-operation	1.25	1.05	0.51
Death within 30 days	0.24	0.42	0.16