Obesity as a post-operative risk factor for women undergoing open radical hysterectomy

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Topic: Cervical

Objectives
Radical hysterectomy (RAH) is the standard of care for treatment of early-stage cervical cancer. Despite the known oncologic benefits, RAH is associated with significant morbidity. According to the World Health Organization (WHO), the prevalence of obesity has tripled since 1975, with 16% of women being obese (BMI of ≥30) in 2016. Published evidence across other surgical specialties shows that obesity negatively influences peri-operative outcomes, including surgical site infection (SSI), blood loss and longer operative times. The purpose of this study was to establish the impact of body mass index (BMI) on the morbidity of RAH.

Methods
Review of institutional data following IRB approval identified women undergoing RAH for stage IA – IIA cervical cancer from 2008-2021. Demographics and clinical data were abstracted, and post-operative morbidities were analyzed. Chi square and T-tests were used for statistical analysis, and survival outcomes were calculated with Kaplan-Meier and log-rank statistics. Patients were excluded if lost to follow-up or if insufficient information regarding their postoperative course was available.

Results
A total of 230 patients were identified and 219 patients were included in the final analysis - 130 with a BMI < 30 and 89 with a BMI ≥ 30. Demographics were similar between groups. In obese patients, open surgery was associated with an increased total number of SSIs (OR = 5.41, p = 0.006) and complications per surgery (p < 0.001). In those who underwent RAH, obese patients had an increase in SSIs, including incisional (OR = 7.02, p = < 0.001), organ space (OR = 4.03, p = 0.034), and total number of SSIs (OR = 7.04, p = < 0.001), pulmonary complications (OR = 10.63, p = 0.008), readmission within 30 days (OR = 4.65, p = 0.003), and average blood loss (p = 0.035). The number of complications per surgery was 1.29 in obese patients, compared to 0.71 in non-obese patients (p < 0.001). There were no statistical differences in survival outcomes in obese versus non-obese patients who underwent RAH (HR 1.10, p = 0.83).

Conclusions
Obesity significantly increases morbidity and all wound complications after RAH. Given increasing prevalence of obesity and open RAH, attention is warranted to properly counsel and, where possible, prevent significant morbidity in this at-risk population.