Sentinel lymph node mapping for endometrial cancer in patients with morbid obesity

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Topic: Endometrial

Objectives
Obesity is a risk factor for endometrial cancer and can increase the complexity of surgery. Previous studies have investigated sentinel lymph node (SLN) mapping in patients with a range of body mass index (BMI), with a median BMI ranging from 27-31, but have not studied success in higher BMI groups. The objective is to evaluate the success of SLN mapping in patients with BMI ≥45 compared to BMI of <45.

Methods
Retrospective chart review was performed using the electronic medical records of patients who underwent robotic-assisted total laparoscopic hysterectomy with attempted SLN mapping at three institutions between January 2015-December 2021. Patients ≥18 years old with clinical stage 1 endometrial cancer or complex atypical hyperplasia were included. Subjects were identified using ICD-9, ICD-10, and CPT codes or available cancer registries. Data collection included clinical and demographic information and outcome of SLN mapping. Data were analyzed using Stata (version 17; Stata, College Station, TX, USA). The proportion of successful SLN mapping in patients with BMI < 45 versus ≥ 45 were compared using Chi-square test.

Results
934 patients were included: 796 (85.2%) with BMI < 45, and 138 (14.8%) with BMI ≥45. Comparing the BMI < 45 with the BMI ≥ 45 group (respectively), bilateral SLN mapping was successful in 545 (68.5%) versus 67 (48.6%); unilateral SLN mapping was successful in 159 (20.0%) versus 33 (23.9%); failed SLN mapping occurred in 92 (11.6%) versus 38 (27.5%), with a p value of < 0.001.

Conclusions
This study demonstrated that there is a statistically significant difference between the success of SLN mapping in patients with a BMI ≥45 compared to those with BMI < 45. A higher proportion of patients with BMI ≥ 45 had failed SLN mapping and a lower rate of bilateral SLN mapping. Understanding the success of SLN mapping in patients with morbid obesity is crucial in pre-operative counseling and when determining stage and intraoperative surgical management. With failed SLN mapping, alternatives include intraoperative frozen pathology for determination of need for further lymph node dissection or a full lymphadenectomy on the side that did not map. Patients with morbid obesity have a lower likelihood of successful SLN mapping which may increase their risk for full lymphadenectomy or postoperative radiation therapy with resultant sequelae.

Abstract Table or Graph