INTRODUCTION

- Indocyanine green (ICG) has been demonstrated to be an effective tracer for use in sentinel lymph node (SLN) mapping for patients with endometrial cancer. Studies have established certain limitations to SLN mapping, particularly a decreased success rate of SLN mapping in patients with higher BMI.
- Evaluation of implementing SLN mapping has shown there is a learning curve in relation to both unilateral and bilateral detection rates of lymph nodes.
- Variations in time from injection of the cervix with ICG to specific intraoperative milestones has been minimally described.
- There is a paucity of data regarding falsely positive (FP) SLN mapping with ICG. We describe this limitation to SLN mapping in women with endometrial cancer.

OBJECTIVES

- Evaluate implementation of a SLN mapping algorithm at a single institution.
- Determine surgeon and patient factors related to the identification of false positive (FP) SLN specimens.

METHODS

- Women with clinical stage I endometrial carcinoma who underwent SLN mapping with indocyanine green (ICG) with or without pelvic and/or para-aortic lymph node dissection from November 2013 to April 2017 were prospectively identified.
- All patients had pathologically proven endometrial carcinoma. Data collection at the time of surgery was standardized for surgical characteristics.
- FP SLN specimens are defined as those specimens without a pathologically identified lymph node after ultrasound-guided needle biopsy or without a pathologically identified lymph node after pelvic lymphadenectomy past the learning curve.

RESULTS

- 202 women were identified with histology as follows: 85% endometrioid, 12% serous, 3% carcinosarcoma, and 3% clear cell.
- The detection rate of SLN bilaterally and unilaterally was 86% and 56%, consistent with previous studies.
- There were 30 patients with FP histology.
- There was a learning curve associated with FP sentinel lymph nodes, similar to previously cited learning curves in SLN mapping for patients with endometrial cancer.
- Intraoperative timing should be taken into consideration when adapting a SLN mapping technique with ICG, as time > 25 minutes from injection to opening of the retroperitoneal spaces and identification of a SLN is associated with a higher FP rate.
- In cases of SLN identification ≥35 minutes, age >64 years was associated with increased FP SLN.

CONCLUSIONS

- A novel limitation to the adaptation of SLN mapping with ICG is described, but could be bypassed with intraoperative frozen section or pelvic lymphadenectomy past the learning curve.
- There is a learning curve associated with FP sentinel lymph nodes, similar to previously cited learning curves in SLN mapping with ICG. There is a decline in the number of FP SLNs after 10 cases, and a sharper decline after 30.
- Intraoperative timing should be taken into consideration when adapting a SLN mapping technique with ICG, as time > 25 minutes from injection to opening of the retroperitoneal spaces and identification of a SLN is associated with a higher FP rate.

REFERENCES


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