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The Incidence of Malignancy and the Preoperative Assessment of Women Undergoing Hysterectomy with Morcellation for Benign Indications



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BACKGROUND

- Hysterectomy is one of the most commonly performed surgical procedures in the U.S., with minimally invasive approaches being preferred.
- The use of power morcellation in gynecologic surgery has come under scrutiny secondary to concerns for occult malignancy dissemination.¹
- The incidence of undiagnosed gynecologic malignancy when hysterectomies are performed for benign indications is not definitive but has been quoted as high as 2.7% (1:37).²
- There is no standard recommended preoperative evaluation, and variation is anticipated by preoperative complaint or diagnosis.³

OBJECTIVES

- To quantify the incidence of malignancy in women undergoing hysterectomy for benign indications with and without morcellation
- To compare the preoperative evaluation of patients undergoing hysterectomy with and without morcellation

METHODS

- Subjects**
- All women having a hysterectomy between October 2007 and June 2014 were identified by billing procedure codes.
- Methods**
- This retrospective cohort study was a medical record review of 2,332 charts.
 - Chart abstraction included demographics; pre-hysterectomy evaluation, including current cervical cytology, pathologic endometrial assessment (biopsy, dilation and curettage), and imaging (ultrasound, MRI, CT scan, sonohysterogram, or hysteroscopy); intraoperative factors; and final diagnosis.

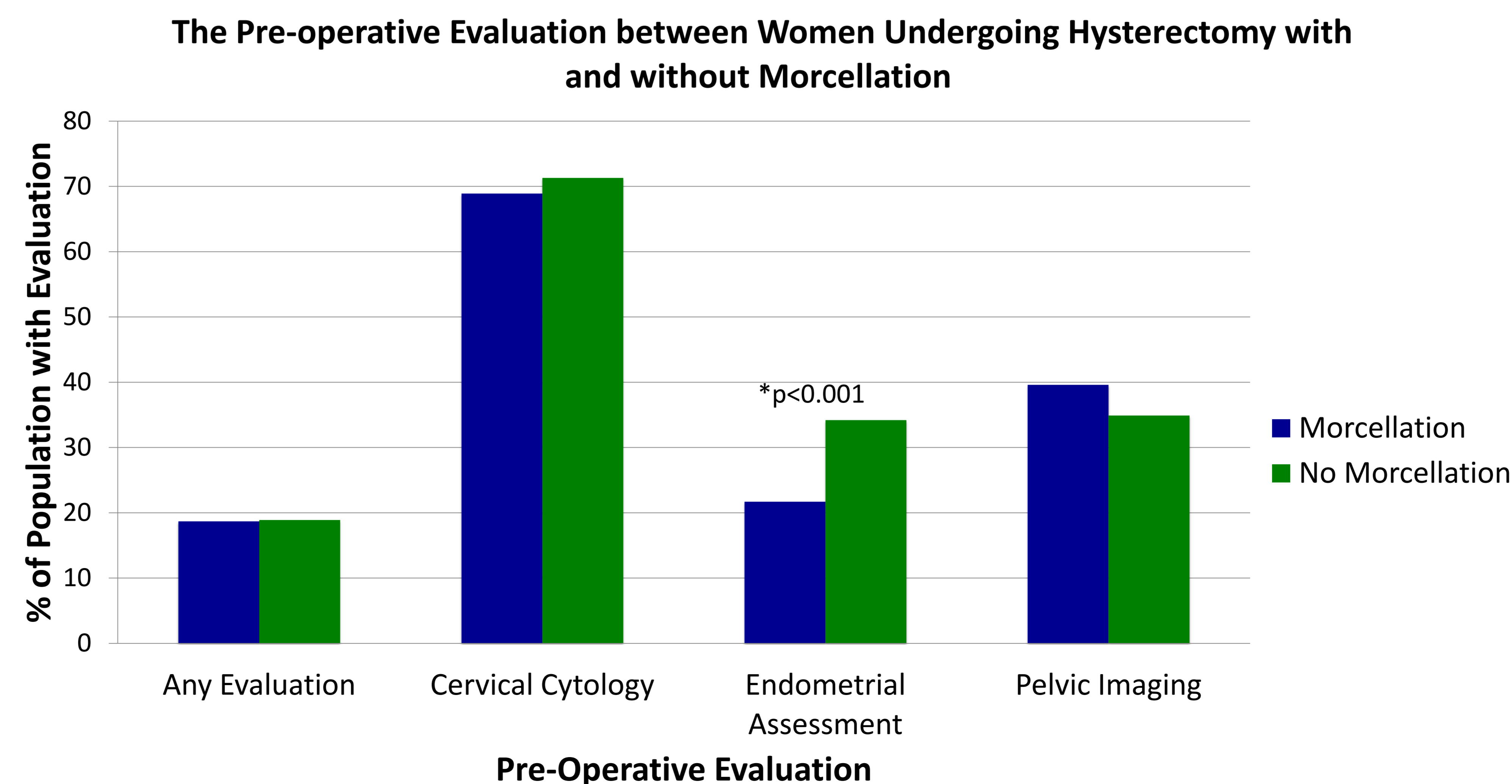
RESULTS

- Demographics**
- The cohort included 2,332 women undergoing hysterectomy with 396 (17.0%) including use of morcellation.
 - Women were aged 48.3 ± 10.2 years at the time of surgery, and 33.7% of the population was post-menopausal.
- Malignancy Incidence**
- The incidence of malignancy on final pathology was 2.1% and was different between non-morcellated versus morcellated specimens (2.5% vs. 0.3%, $p < 0.001$).
- Pre-operative Evaluation**
- There was no significant difference in current cervical cytology (68.9% vs. 71.3%) and imaging (39.6% vs. 34.9%) rates between the non- versus morcellated groups; however those experiencing morcellation were less likely to have preoperative pathologic endometrial assessment (21.7% vs. 34.2%, $p < 0.001$).

Table 1.

| Final Pathology Result | Total Population | Morcellation (n=396) | No Morcellation (n=1,936) | P-value |
|------------------------|------------------|----------------------|---------------------------|---------|
| Benign | 2,117 (90.8%) | 390 (98.5%) | 1,727 (89.2%) | <0.001 |
| Pre-cancerous | 166 (7.1%) | (1.3%) | 161 (8.3%) | |
| Malignant | 49 (2.1%) | 1 (0.3%) | 48 (2.5%) | |

Figure 1.



CONCLUSIONS

- The incidence of malignancy at time of hysterectomy performed by non-oncology trained gynecologists was 2.1% overall, and 0.3% in morcellated cases.
- The pre-operative evaluation of patients undergoing hysterectomy with morcellation was similar to those without morcellation, except for lower rates of pathologic endometrial assessment by dilation and curettage or endometrial biopsy.
- The lower rates of endometrial assessment seen in the morcellation group can be explained by the fewer chief complaints of abnormal uterine bleeding and more pre-operative diagnoses of pelvic organ prolapse.
- An argument could be made that a pathology assessment is indicated in the group undergoing hysterectomy with morcellation due to risk of dissemination in the case of occult malignancy.
- The risk of occult malignancy is rare, but this should be discussed with patients and taken into account during the pre-operative evaluation.

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