

**Poster 9: Surgical complications with and without removal of the uterus during proctectomy following pelvic radiation for colorectal malignancy**

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Topic: Endometrial

**Objectives**

Pelvic radiation increases the risk of future uterine malignancies with poor prognosis. Neoadjuvant pelvic radiation is a standard treatment for advanced rectal cancers, and incidence in younger patients is increasing. We sought to determine if hysterectomy at the time of proctectomy increases the risk of surgical complications.

**Methods**

The National Surgical Quality Improvement Program (NSQIP) database was used to identify female participants (2016-2022) with rectal cancer treated with neoadjuvant pelvic radiation followed by proctectomy. Linear and logistic regression models adjusted for surgical approach [open vs. minimally invasive (MIS)] were used to examine the relationship between concurrent hysterectomy and outcomes including unplanned readmission, total surgery time, length of stay (LOS) and surgical site infection (SSI).

**Results**

2512 participants met criteria with 181 (7.2%) undergoing concurrent hysterectomy. Those undergoing hysterectomy were younger than those who did not (mean age 57.5 vs. 61.1,  $p < 0.001$ ). Overall, 61.8% of proctectomy cases were MIS, with increasing rates over time (54.7% in 2016 to 70.3% in 2022). Concurrent hysterectomy was more common during open surgery (140/181, 80.9%) than MIS,  $p < 0.001$ ; and with increasing tumor (T) stage ( $p < 0.001$ ). In the hysterectomy group, 41.4% had T4 disease vs. 17.5% of those who did not have hysterectomy. There was no difference in rates of unplanned readmission or SSI with concurrent hysterectomy. Adjusting for surgical approach, operative time was on average 98 minutes longer (95%CI: 77 – 120) with concurrent hysterectomy, but LOS was not longer.

**Conclusions**

Concurrent hysterectomy during proctectomy following pelvic radiation for colorectal malignancy is infrequently done and is more likely with increasing T stage and open surgery, reflecting more advanced disease. Despite this, the addition of hysterectomy to proctectomy did not significantly increase rates of readmission, SSI, or LOS.