

# Tumor proximity to serosal surface as an independent prognostic factor in stage 1 endometrial cancer

## Authors:

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## Background:

Endometrial cancer is the most common gynecologic malignancy among women in developed countries and the fourth most common malignancy of women in the United States. Additionally, the incidence and mortality associated with endometrial cancer has nearly doubled and tripled respectively over the last 35 years. The current FIGO classification of stage 1 endometrial cancer stratifies tumors based on the percentage of myometrial invasion. However, little research has been conducted to determine if tumor proximity to the uterine serosal surface in addition to depth of myometrial invasion is an independent factor associated with poorer outcomes in stage 1 endometrial cancer.

## Objectives:

To determine if tumor distance from the uterine serosal surface is an independent prognostic factor for disease recurrence and survival in stage 1 endometrial cancer

## Methods:

Eligible subjects diagnosed with stage 1 endometrial cancer between 1988 and 2015 were identified from an institutional database. This retrospective cohort was evaluated to assess differences in tumor distance from the serosal surface, histologic subtype, histologic grade, use of adjuvant treatment, recurrence rates and overall survival. Cox proportional hazard models were used to determine if the variables of interest were related to recurrence and overall survival. Concordance correlation coefficients were used to compare our model to the current FIGO criteria.

## Results:

Among our patients, tumor distance from the serosal surface ranged from 0 mm-21 mm. 78 (10%) patients experienced recurrence. Patients with tumors located 5mm or less from the serosal surface were 2.24 times more likely to experience recurrent disease (HR 2.24, 95% CI 1.16-4.33, p=0.02). Concordance rates for disease recurrence were 0.57 and 0.58 for our tumor distance model compared to the current FIGO staging model (95% CI 0.52-0.62 and 95% CI 0.53-0.63).

## Conclusions:

Our study demonstrates that patients with tumors located 5mm or less from the serosal surface have a two-fold increased risk of recurrence. Concordance rates are very similar between our model and the current FIGO staging suggesting comparable predictability. However, these rates suggest there is room for improvement in our models to predict disease recurrence and survival.