Primary radiation therapy for medically inoperable patients with clinical stage I and II endometrial cancer

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Objective: The aim of this study was to evaluate outcomes associated with primary radiation therapy for medically inoperable clinical stage I and II endometrial adenocarcinoma (EAC).

Methods: A multi-institution chart review of women with medically inoperable clinical stage I and II EAC was performed (1997 to current). Pertinent patient characteristics and treatment information were collected. Times to recurrence and survival were assessed using the Kaplan–Meier method. Analysis was performed using STATA SE Version 10.

Results: Fifty-four patients met inclusion criteria. The median age at diagnosis was 62.5 years (range: 36–86) and the median BMI was 45 kg/m^2 (range: 22–81); 71% were American Society of Anesthesiologists class 3 (severe systemic disease). The most common reason for medical inoperability was high cardiopulmonary risk or increased cardiopulmonary risk combined with morbid obesity (N = 32/54, 59%). Forty-two women (78%) were clinical stage I and 12 (22%) presented with clinical stage II disease. Endometrioid (N = 45) or adenocarcinoma not otherwise specified (N = 4) was the most common histologic subtype (91%), and 54% (29/54) presented with FIGO grade 1 disease (44% [24/54] grade 2 or 3, 2% [1/54] unknown). Fifty-four percent (N = 29) underwent whole-pelvis radiation (WPR) only, 17% (N = 9) brachytherapy (BT) only, 22% (N = 12) WPR + BT, 2% (N = 1) chemoradiation/ WPR, 2% (N = 1) WPR followed by adjuvant chemotherapy and 4% (N = 2) with unknown radiation type. The median WPR dose was 4500 cGy, number of fractions 25 and dose/fraction 180 cGy. The median brachytherapy dose was 2100 cGy in three implants of 700 cGy per fraction. Five patients experienced grade 3 adverse events (AEs) and two patients had a grade 4 AE. Fifty-two patients were evaluable for recurrence and survival. With a mean follow-up of 26 months, 10 patients (19%) experienced recurrence. The most common recurrence locations were distant (four patients) and pelvic (four patients). Of the 10 recurrences, six were in the WPR-only cohort, one in a patient receiving WPR followed by chemotherapy and three in the WPR + BT group. Nineteen women died, and the median overall survival was 52 months.

Conclusions: Primary radiation therapy for clinical stage I and II EAC is a feasible option for medically inoperable patients. Although the recurrence rates exceed those associated with surgical management, the observed overall survival of 52 months is superior to that in previously reported series of women receiving primary radiotherapy.