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Management of elderly patients with early-stage medically inoperable endometrial cancer: Systematic review and National Cancer Database analysis

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ABSTRACT

PURPOSE: To evaluate the effectiveness of radiation therapy among elderly patients who are deemed medically inoperable.

METHODS AND MATERIALS: We searched PubMed to identify studies from the past 25 years that reported outcomes of medically inoperable endometrial cancer patients treated with radiation alone. The National Cancer Database (NCDB) was queried to identify patients 65 years and older with Stage I—II medically inoperable endometrial cancer. Univariable and multivariable models were performed to investigate the impact of prognostic factors on overall survival.

RESULTS: Thirteen papers met inclusion criteria for the systematic review. Overall survival for Stage I tumors at 5 years was 30-95%. Reported pelvic control for the 888 total patients with Stage I tumors was 80-100% and 61-89% for Stage II. Late complications for all patients treated ranged from 0% to 21% across patients. The NCDB analysis demonstrated that any radiotherapy was associated with improved survival over no local therapy. Combination therapy (external beam radiation therapy + brachytherapy) was associated with the most favorable survival with a hazard ratio (HR) of 0.442 (p < 0.001 over no radiotherapy), although benefits were also seen with external beam radiation therapy alone (HR 0.694, p < 0.001) and with brachytherapy alone (HR 0.499, p < 0.001) compared to no radiotherapy.

CONCLUSIONS: The available evidence suggests high rates of local control after radiation therapy for elderly women with Stage I—II medically inoperable endometrial cancer. Our analysis of the NCDB suggests that radiation therapy improves survival, and combination therapy provides the most favorable outcomes. Given a relatively favorable toxicity profile, definitive radiation therapy should be considered a preferred approach for patients with medically inoperable endometrial cancer. © 2017 American Brachytherapy Society. Published by Elsevier Inc. All rights reserved.

Keywords:

Inoperable; Endometrial cancer; Uterine cancer; Radiation therapy; Brachytherapy

Introduction

Endometrial cancer is the most common gynecologic malignancy in the Western world, with increasing incidence and mortality since the year 2000 (1). This increase is

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largely attributed to rising obesity rates, as risk of endometrial cancer increases by 50% for every 5 unit increase in body mass index (2). Age is an important risk factor, and the probability of developing invasive uterine corpus cancer steadily increases with age, with one in 76 women over 70 years of age being diagnosed, and a mean age at diagnosis of 60 years (3).

The standard initial treatment for uterine cancer is total hysterectomy and bilateral salpingo-oophorectomy, often with lymphadenectomy for lymph node staging (4). However, in elderly women and women with significant medical comorbidities that increase perioperative risks, such extensive surgeries can be ill advised. For patients who are not

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surgical candidates or who refuse surgery, definitive radiation therapy is a primary option for definitive therapy, although hormonal therapy and chemotherapy may have effectiveness as well (5). However, there are currently no comparative data available to provide guidance on which treatment approach is preferred in women with medically inoperable endometrial cancer.

To provide useful information that can guide clinicians and patients, we therefore proposed to synthesize the available evidence on radiation therapy for medically inoperable endometrial cancer and to also generate new comparative evidence in the form of an observational cohort study using a large national database. We performed a systematic review of the literature on elderly and medically inoperable patients diagnosed with early-stage endometrial cancer who have been treated with definitive radiation therapy in an effort to provide accurate estimations of local control

and toxicity in this patient population. We also analyzed the National Cancer Database (NCDB) to estimate rates of treatment utilization and their impact on overall survival (OS).

Methods and materials

Systematic review

In June 2016, we queried the PubMed database using the following search terms: (medically inoperable or inoperable) and (endometrial or endometrium) and (adenocarcinoma or carcinoma or cancer or neoplasm) and (radiation or irradiation or brachytherapy). References to articles within were added if relevant. Studies were limited to publications in the past 25 years. For inclusion, studies should: (1) have a prospective or retrospective design; (2) include patients over age 65 years; (3) report

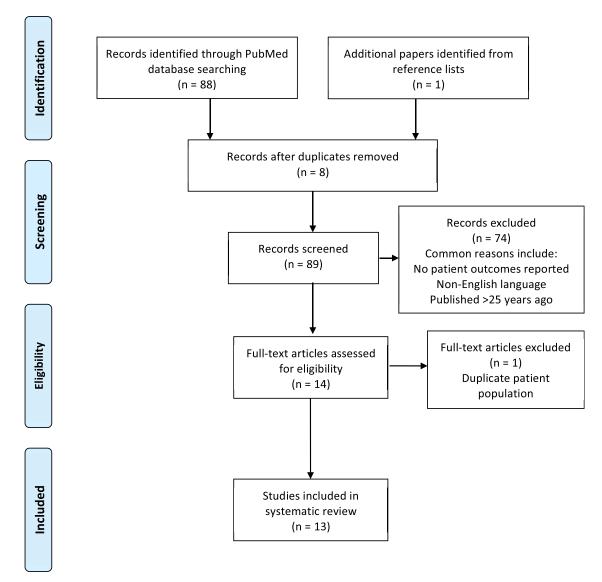


Fig. 1. Selection process for systematic review.

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