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Determination of prognostic factors for vaginal mucosal toxicity associated with intravaginal high-dose rate brachytherapy in patients with endometrial cancer.

Bahng AY, Dagan A, Bruner DW, Lin LL.

Department of Radiation Oncology, University of Pennsylvania School of Medicine, Philadelphia, PA 19104, USA

ABSTRACT

PURPOSE: The objective of this study was to determine the patient- and treatment-related prognostic factors associated with vaginal toxicity in patients who received intravaginal high dose rate (HDR) brachytherapy alone as adjuvant treatment for endometrial cancer. Secondary goals of this study included a quantitative assessment of optimal dilator use frequency and a crude assessment of clinical predictors for compliant dilator use.

METHODS AND MATERIALS: We retrospectively reviewed the charts of 100 patients with histologically confirmed endometrial cancer who underwent total hysterectomy and bilateral salpingo-oophorectomy with or without lymph node dissection and adjuvant intravaginal brachytherapy between 1995 and 2009 at the Hospital of the University of Pennsylvania. The most common treatment regimen used was 21 Gy in three fractions (71 patients). Symptoms of vaginal mucosal toxicity were taken from the history and physical exams noted in the patients' charts and were graded according to the Common Toxicity Criteria for Adverse Events v. 4.02.

RESULTS: The incidence of Grade 1 or asymptomatic vaginal toxicity was 33% and Grade 2-3 or symptomatic vaginal toxicity was 14%. Multivariate analysis of age, active length, and dilator use two to three times a week revealed odds ratios of 0.93 ($p = 0.013$), 3.96 ($p = 0.008$), and 0.17 ($p = 0.032$) respectively.

CONCLUSION: Increasing age, vaginal dilator use of at least two to three times a week, and shorter active length were found to be significantly associated with a decreased risk of vaginal stenosis. Future prospective studies are necessary to validate our findings.

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