

Long-term outcomes of concomitant chemoradiotherapy incorporating high-dose-rate brachytherapy to treat locally advanced cervical cancer

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ABSTRACT

Aim and background. We reviewed the long-term clinical outcomes of patients treated with cisplatin-based concurrent chemoradiotherapy (CCRT) incorporating high-dose-rate (HDR) intracavitary brachytherapy (ICBT) in terms of toxicity, local control and survival rates. In addition, we identified prognostic factors for overall and disease-free survival.

Methods and study design. Two hundred and nine patients with stage IB2-IVA cervical cancer underwent curative cisplatin-based CCRT plus HDR ICBT. Women with stage IB2-IIB disease were given 41.4 Gy of external radiotherapy followed by 35 Gy (in 7 fractions) of ICBT. Women with stage IIIA-IVA were given 50.4 Gy followed by 30 Gy (in 6 fractions) of ICBT. Patients with parametrial disease or pelvic lymphadenopathy were given parametrial boosts via external beam radiation at a dose of up to 65 Gy to thickened and 60 Gy to unthickened parametrial regions.

Results. One hundred and thirty (62%) patients experienced acute grade 3-4 hematological toxicities and 11 (5%) patients had late grade 3 gastrointestinal or genitourinary complications. Complete responses occurred in 168 (80%) women as determined by clinical and imaging studies. The median follow-up period was 52 months for surviving patients and the 5-year overall and disease-free survival rates were 74% and 67%, respectively. Multivariate analysis indicated that tumor size and paraaortic lymph node involvement were prognostically significant in terms of overall survival, and that tumor diameter was a significant prognostic factor and pelvic lymph node status a marginally significant prognostic factor for disease-free survival.

Conclusions. Patients treated with our current HDR ICBT protocol have acceptably low late complication rates and local control and survival rates comparable to those reported in other studies. Tumor diameter was an important prognostic factor in terms of both overall and disease-free survival, emphasizing the need for modern ICBT methodologies.

Key words: chemoradiotherapy, high-dose-rate brachytherapy, uterine cervical cancer.

Conflict of interest statement: The authors declare that there are no conflicts of interest.

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