Cureus

Dose Escalation by Stereotactic Radiotherapy for Locally Advanced Cervical Cancer with Intact Cervix

Open Access
Abstract
Published 04/02/2023

Menekşe Turna [1] , Esra Küçükmorkoç [1] , Nadir Kucuk [2] , Emre Sanli [1] , Rashad Rzazade [3] , Dogu Canoglu [1] , Hale B. Caglar [4]

1. Radiation Oncology, Anadolu Medical Center, Kocaeli, TUR 2. Anadolu Medical Center, Kocaeli, TUR 3. Radiation Oncology, Andolu Medical Center with Affilation John Hopkins Medicine, ISTANBUL, TUR 4. Radiation Oncology, Anadolu Medical Center, Istanbul, TUR

Corresponding author: Menekşe Turna, menekse.turna@gmail.com

Categories: Radiation Oncology
Keywords: locally advanced cervical cancer, stereotactic ablative body radiotherapy

How to cite this abstract
Turna M, Küçükmorkoç E, Kucuk N, et al. (April 02, 2023) Dose Escalation by Stereotactic Radiotherapy for Locally Advanced Cervical Cancer with Intact Cervix. Cureus 15(4): a891

Abstract

Objectives:

Objectives: Dose escalation with brachytherapy after pelvic irradiation is crucial in cervical cancer. The application can be impossible for some patients. Dose escalation with SBRT is widely accepted with high local control and acceptable toxicity rates in different body parts. We conducted a clinical SBRT boost study in cervical cancer patients who refused to continue with brachytherapy.

Methods:

Informed consent of all patients was obtained before treatment. All patients were aware of the experimental nature of the treatment.
Patients were simulated with an Empty rectum and a comfortable full bladder. The target volumes were planned in two phases. The whole pelvis +_ paraaortic area was treated with 45 Gy in 25 fractions in the first phase, while 62,5 Gy was prescribed with simultaneous integrated boost for the radiologically positive nodes. In the last week of the first phase, gynecological examination, a new pelvic MRI, and CT simulation were done for the second phase, and 30 Gy for the high-risk volume (HR) and 25 Gy for the intermediate-risk (IR) volume were prescribed. GEC-ESTRO Study
Group criteria were used in target volume delineation. Surface-guided RT with OSMS AlignRT (Vision RT, London, UK) is applied before and during the treatment. All treatments were done on consecutive days in the first phase and on alternate days in the second phase in Varian Edge linear accelerator. Response evaluation was done three months after the completion of treatment.

Results:

Between 02.2019 and 09.2021, 21 patients were treated with SBRT boost after pelvic irradiation. The median follow-up time was 15,4 months (2,5- 43,6 months). The median HR CTV volume was 38,4 cc (range 8,3-76,4 cc). There was 20 complete response and one partial response in the third month after treatment. This patient with residual disease went to a salvage hysterectomy in the sixth month. There were no local or regional recurrences. Four patients developed distant metastases (one patient in the lungs, one in the adrenal gland, one patient with ovary metastasis, and one in non-regional lymph nodes) with loco-regional control.
No acute or long-term grade III side effects have occurred. Grade I rectal bleeding in one patient and grade II hematuria was developed during the follow-up period.

Conclusion(s):

SBRT with strict preparation protocol and IGRT is safe and can be done in cervical cancer who refuse brachytherapy.