Acute toxicity in standard treatment of cervical cancer

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Purpose

Prospective evaluation of the acute toxicity caused by standard definitive treatment of cervical cancer – concurrent weekly cisplatin and External Beam Radiotherapy (EBRT) followed by high dose rate intracavitary brachytherapy (HDR BT).

Methods and materials

In this analysis were included 50 patients treated at one institution between June 2017 and June 2018. All patients were treated with 3D conformal chemo-radiation, with weekly Cisplatin 30 mg/m2 for a maximum of 5 cycles. They received 50.4 Gy/28 fractions, 5 fractions per week of external beam radiation. In these patients dose optimization was done in order to achieve a tumor maximum dose (Dmax) around 105%. Various techniques were used for dose optimization which included the use of sub fields, adjusting the weightages, using wedges and the use of mixed energies. EBRT was followed by three fractions of HDR BT of 7 Gy each. Acute RTOG toxicity was assessed weekly during the treatment and 2 weeks post treatment.

Results

The median age of the patients was 51±11.3 years. All the patients (100%) completed EBRT; 42 patients (85%) of the patients received all 5 cycles of chemotherapy while 8 patients (15%) of the patients received 4 cycles of chemotherapy. The most predominant toxicity seen was gastrointestinal toxicity (radiation proctitis), diarrhea being the most common GI toxicity followed by vomiting. Neutropenia was the most common hematological toxicity: most patients had grade 0 and grade 1 toxicity. None of the patients had grade 4 toxicity while few had grade 2 and 3 toxicity. Radiation cystitis was observed in the majority of cases with a grade 0 and grade 1 toxicity, without the need for symptomatic therapy, only 2 patients have grade 3 toxicity with the need for therapy.

Conclusion

Acute toxicity appears as a result of the standard definite treatment of cervical cancer, but it is usually of low grade, easy to manage and does not disturb the general condition of the patient.

Keywords:

Cervical cancer, 3D conformal, dose optimization, acute radiation toxicity