

ABSTRACT

Cervical cancer is caused by the Human Papilloma Virus (HPV) which develops in the cervix and can lead to the formation of malignant tumors. This disease can be treated with radiotherapy, one of which is a combination of External Beam Radiation Therapy (EBRT) with booster brachytherapy. Based on ICRU Report No. 89, the combination of EBRT and booster brachytherapy is the standard treatment for cervical cancer to achieve optimal therapy results. The purpose of this study was to evaluate the total radiation dose in patients undergoing post-external radiation therapy and booster brachytherapy, based on the dose constraints set out in ICRU Report No. 89. This study used data from 10 patients who had undergone EBRT radiotherapy, then followed with booster therapy using brachytherapy with the Fletcher applicator. The results showed that Point A had a median of 79.82 Gy with an IQR (79.79–79.85 Gy) which was slightly below the recommendation of ICRU Report No. 89, but close to the total target of 80 Gy and still in accordance with the guidelines of ICRU Report No. 89. 38. The median of the bladder was 65.15 Gy IQR (63–68.3 Gy), while the rectum was 61.3 Gy IQR (59.9–62.4 Gy). These values are still below the dose constraint limit recommended by ICRU Report No. 89. Overall, the therapy was optimal because it approached the target dose while maintaining the dose to the OAR within safe limits, thus minimizing the risk of side effects.

Keywords: EBRT, Brachytherapy, Fletcher, EQD2, Cervical Cancer.