

Analysis of Point Doses to Bladder and Rectum in HDR Brachytherapy to Advanced Cervical Cancer at Apeksha Hospital Maharagama

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Gynaecological cancers are fourth commonest cancer in world among women. Brachytherapy is a major treatment option for gynaecological cancers. When Brachytherapy source is implanted in cervical cavity of the patient, there is a high risk of irradiating bladder and rectum since these critical organs are in close proximity to the sources. The main aim of this study was to analyse the radiation doses by evaluating point doses, rectum dose and bladder dose in a cervical brachytherapy treatment. This study was conducted at high dose rate brachytherapy unit, Apeksha Hospital, Maharagama. 70 cervical cancer patients those who received 21 Gy in 3 fractions were selected for this study and among them 50 and 20 were point A and point M types of treatment respectively. Maximum applicator distance, total dwell time, average bladder and rectum doses, and doses to the point M, A and B were measured from the treatment planning system of HDR brachytherapy. The correlation is significant in between total dwell time and the average bladder and rectum doses in intracavitary treatments in HDR brachytherapy of cervix cancers. The correlation is not significant in between maximum applicator distance and the average bladder and rectum doses both in point A and M types. Total bladder dose of point A patients was statistically significantly greater than the point M patients. Total rectum dose of point M patients was statistically significantly greater than the point A patients.

Keywords: HDR brachytherapy, average bladder dose, average rectum dose, point m point a, maximum applicator distance, total dwell time