

Calculation of Organs Radiation Dose in Cervical Carcinoma External Irradiation Beam Using Day's Methods

Authors : Yousif M. Yousif Abdallah, Mohamed E. Gar-Elnabi, Abdoelrahman H. A. Bakary, Alaa M. H. Eltoum, Abdelazeem K. M. Ali

Abstract : The study was established to measure the amount of radiation outside the treatment field in external beam radiation therapy using day method of dose calculation, the data was collected from 89 patients of cervical carcinoma in order to determine if the dose outside side the irradiation treatment field for spleen, liver, both kidneys, small bowel, large colon, skin within the acceptable limit or not. The cervical field included mainly 4 organs which are bladder, rectum part of small bowel and hip joint these organ received mean dose of (4781.987 ± 281.321) , (4736.91 ± 331.8) , (4647.64 ± 387.1) and (4745.91 ± 321.11) respectively. The mean dose received by outfield organs was $(77.69 \pm 15.24 \text{cGy})$ to large colon, $(93.079 \pm 12.31 \text{cGy})$ to right kidney $(80.688 \pm 12.644 \text{cGy})$ to skin, $(155.86 \pm 17.69 \text{cGy})$ to small bowel. This was more significant value noted.

Keywords : radiation dose, cervical carcinoma, day's methods, radiation medicine