ABSTRACT

Endometrial cancer is one of the most prevalent gynecological malignancies with an increasing incidence rate. Three-Dimensional Conformal Radiation Therapy (3D-CRT) is widely used to deliver radiation doses precisely to the tumor while minimizing exposure to surrounding healthy tissues. This study aims to compare the effectiveness of 4-beam, 5-beam, and 6-beam 3D-CRT planning techniques in endometrial cancer cases based on Conformity Index (CI), Homogeneity Index (HI), Monitor Unit (MU), and dose received by surrounding organs (Organs at Risk/OAR), particularly the bladder and rectum. The study was conducted using data from three patients replanned using Monaco TPS. Results showed that the 5-beam technique yielded better CI and HI values than the 4-beam technique, with lower doses to the OAR. The 6-beam technique provided the most homogeneous dose distribution and the highest OAR protection but required a significantly higher MU. Therefore, the 5-beam technique is recommended as the most balanced configuration in terms of clinical effectiveness, planning efficiency, and healthy tissue protection.

Keywords: *3D-CRT, endometrial cancer, 4-beam, 5-beam, 6-beam, Conformity Index, Homogeneity Index*