

Application of the ring applicator in patients with cervical cancer in whom tandem was not possible

Klimek Małgorzata, Góra Eleonora, Urbański Krzysztof, Pudełek Jacek

Centrum Onkologii – Instytut im. Marii Skłodowskiej-Curie w Krakowie, Polska

Purpose: Assessment of efficacy of the ring applicator in patients with cervix cancer with extremely difficult anatomical conditions.

Material and methods: In retrospective analysis we compared the dose distributions of the ring (diameter range from 2.5 cm to 5.5 cm) in the first insertion in the group of ten patients with exofitic cervix cancer Ib-IIa in whom identification of external orifice of the cervix was not possible with the tandem and ovoids or tandem and ring in the next insertions when cervix orifice could be identified. In that time, in this specific clinical situations other methods of treatment (surgery or external beam irradiation) for the different reasons were not possible to apply. All patient were treated with brachytherapy using Selectron LDR/MDR. The knowledge of the advantages and limitations of the ring in this difficult anatomical conditions is important. Point A was the reference point for the nine patients and the dose range from 10 (2 patients) to 20 Gy (7 patients). For one patient dose has been calculated one cm from the applicator surface. Eight patients have tandem and ovoids or tandem and ring in second insertion, two in third insertion. It was possible thanks to the remission after first application (80% of pts), or second and improvement of anatomical conditions. The doses to the point B, rectum and urinary bladder were compared in the same patients for first and next insertions.

Results: Our results have shown that in the case of the ring in the first insertion adoption of the point A as

reference point provides better dose distribution than for 1 cm from applicator surface. Although ring in the first insertion provides suboptimal dose distribution compared with tandem and ovoids or tandem and ring in the next insertions, prescription of the dose 20 Gy to the reference point A and proper diameter of the ring assured adequately high dose to the whole exofitic infiltration, which does allow then inserting tandem.