

The Analysis of Dose in a Reference Points for the Optimization in Brachytherapy

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We tried to make correct measurements of the dose at reference points(A,B) and critical organs of interest using home made MPBP(multi purpose brachytherapy phantom) for the dose optimization. For this work the MPBP was home-made, which was designed to arrange treatment applicators in the same configuration as the time of patient treatments using MFA(multi function applicator). Dose measurement were made at reference points(A,B) and a bladder point in phantom with TLD(thermoluminescent) for four patients of uterine cervix cancer treated with tandem and ovoids. A total of 20 measurements were made 5 times per a patient. The results of TLD measurements in MPBP phantom showed the relative error from -3.2% to 3.8% at the A Point, -1.4 % to 4% at the B point and 1.3% to 7.15% at the bladder point. The reproducibility of the dose measurements in phantom under the same condition as the treatment could be achieved owing to the home- made MFA and the dose at reference points(A,B) and a bladder point could be measured accurately. The dose measured in MPBP can be applied for the dose optimization.

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