

PATIENT SKIN DOSE ASSESSMENT DURING CT GUIDED INTERVENTIONAL PROCEDURES

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Patient dosimetry during CT guided interventional radiology (IR) procedures is a complex task due to the complexity and severity of case or radiologist's experience. Slow verification films used in radiotherapy have been successfully used for some years in Interventional Cardiology to assess patient skin radiation dose. The purpose of this study was to investigate the patient skin doses in the most frequent CT guided interventional radiology (IR) procedures.

The study includes 14 biopsy and 15 radiofrequency (RF) ablation procedures in the abdominal region of patients performed in Agia Olga hospital. Patient skin dose was assessed by means of Kodak X-Omat verification films placed on the patient table so as not to interfere with the procedure. The technical factors recorded were: tube kilovoltage (kVp), tube load (mAs), slice thickness and total number of slices.

Median value of maximum skin dose (MSD) in biopsy was 108 mGy (9.5 mGy – 282 mGy). Total number of slices had a range of 4-152 with a median of 44 slices. A significant correlation was found between total number of slices and radiation dose ($r = 0.80$). Median MSD in RF ablation was 238 mGy (104 mGy - 500 mGy). Total number of slices had a range of 108-175 with a median of 155 slices. No significant correlation was found between total number of slices and radiation dose.

The RF ablation presents higher doses than the biopsy. The radiation dose ranges found were large revealing the importance of complexity of each clinical case and the operator experience. The results showed that much higher sample of patient must be investigated so as to draw more accurate conclusions.

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