

عنوان مقاله:

A Comparison of Skin Dose Delivered with MammoSite and Multicatheter Breast Brachytherapy

محل انتشار:

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خلاصه مقاله:

Background: Accelerated partial breast irradiation via interstitial balloon brachytherapy is a fast and effective treatment method for certain early stage breast cancers however skin, chest wall and Lung doses are correlated with toxicity in patients treated with breast brachytherapy. Objective: To investigate the percentage of the dose received by critical organ (skin), thermoluminescence detector was used in MammoSite brachytherapy and the ability to control skin dose between MammoSite and MultiCatheter brachytherapy was compared with each other. Method: Dosimetry is carried out using a female-equivalent mathematical chest phantom and Ir-192 source for brachytherapy application. Results: Our initial results has shown good agreement with surface doses between those calculated from the treatment planning results and those measured by the thermoluminescence detector. The mean skin dose for the experimental dosimetry in MammoSite was ۲.۳ Gy (۵۶.۷۶% of prescription dose). Conclusion: The results show that the MultiCatheter method is associated with significantly lower mean skin and chest wall dose than is the MammoSite. The Multi- Catheter technique is quite flexible and can be applied to any size of breast or lumpectomy cavity, But in MammoSite technique, verification of balloon symmetry, balloon/ cavity conformance and overlying skin thickness is .essential to assure target coverage and toxicity avoidance

کلمات کلیدی:

Brachytherapy, MammoSite, MultiCatheter, Thermoluminescence detector, Treatment planning system, Skin Dose

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