

عنوان مقاله:

Measurement of Thyroid Dose by TLD arising from Radiotherapy of Breast Cancer Patients from Supraclavicular Field

محل انتشار:

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خلاصه مقاله:

Background: Breast cancer is the most frequently diagnosed cancer and the leading global cause of cancer death among women worldwide. Radiotherapy plays a significant role in treatment of breast cancer and reduces locoregional recurrence and eventually improves survival. The treatment fields applied for breast cancer treatment include: tangential, axillary, supraclavicular and internal mammary fields. Objective: In the present study, due to the presence of sensitive organ such as thyroid inside the supraclavicular field, thyroid dose and its effective factors were investigated. Materials and Methods: Thyroid dose of ۳۱ female patients of breast cancer with involved supraclavicular lymph nodes which had undergone radiotherapy were measured. For each patient, three TLD-۱۰۰ chips were placed on their thyroid gland surface, and thyroid doses of patients were measured. The variables of the study include shield shape, the time of patient's setup, the technologists' experience and qualification. Finally, the results were analyzed by ANOVA test using SPSS ۱۱.۵ software. Results: The average age of the patients was 46 ± 10 years. The average of thyroid dose of the patients was 14.0 ± 4.5 mGy (ranged ۲۸۸.۲ and ۸۰.۸) in single fraction. There was a significant relationship between the thyroid dose and shield shape. There was also a significant relationship between the thyroid dose and the patient's setup time. Conclusion: Beside organ at risk such as thyroid which is in the supraclavicular field, thyroid dose possibility should be reduced. For solving this problem, an appropriate shield shape, the appropriate time of the patient's setup, etc. could be considered.

کلمات کلیدی:

Thyroid Dose, Breast cancer, Radiotherapy, Supraclavicular Field, TLD

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