



SKIN CANCER (OTHER THAN MELANOMA)

INTERVENTIONAL RADIOTHERAPY (BRACHYTHERAPY; IRT) ALONE FOR PRIMARY SKIN LYMPHOMA

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BACKGROUND: Decision-making in primary cutaneous lymphomas (CLs) is usually taken by a multidisciplinary group. Although interventional radiotherapy (IRT) is well established and frequently used to treat skin cancer, it was not even considered as a potential approach for localized CLs. The aim of our study was to demonstrate the potential of IRT in the treatment of localized CLs.

MATERIAL AND METHODS: Three patients with Stage I CLs (2 follicle and 1 T-cells; median age 64 years old, range 63-65) were treated with an individual mould based high dose rate (HDR)-IRT. Following the international lymphoma radiation oncology group guidelines, electron and photon plans were prepared for each patient as well as an individual HDR mould for interventional radiotherapy.

A double-layer of a thermoplastic mask was applied to the skin surface. Plastic tubes were fixed on the mould in appropriate geometry over the target area. Planning computed





tomography (CT) images were acquired (2.5mm slice thickness). The treatment intention was to deliver $\geq 95\%$ of the prescribed dose to the Planning Target Volume (PTV), accepting 90% as satisfactory. Toxicities were assessed using the Common Terminology Criteria for Adverse Events scale (CTCAE) v. 4.0.

RESULTS: The electron plans were not applicable because of the large lesion sizes and of the complex anatomic situations. The photon plans showed an acceptable dose distribution while the HDR-IRT plan provided optimal coverage. Acute toxicity: Grade 2 erythema patients during IRT. Towards the end of each treatment schedule, epidermolysis developed which was resolved within 6 weeks. Late toxicity: Grade 1 skin atrophy, pigmentation changes and infield alopecia were observed in all patients. At last follow-up (28 months), all patients were disease free.

CONCLUSION: Our case-series highlights the potential of personalized surface HDR-IRT monotherapy. Since the method is rarely used, a further multi-institutional investigation is warranted.

