

Head and Neck Cancer Radiation Therapy Immobilization Design and Error Analysis

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Abstract

The recent evolution of radiation therapy often using technologies such as IMRT or VAMT treatment of head and neck cancer and resynchronization therapy as a preventive treatment and supraclavicular lymph node, investigate the treatment of lymph node synchronization when the shoulder fixed effects. Collection of 18 patients with head and neck cancer were collected using CBCT three groups using different immobilization fixed shoulder, collecting 673 images were analyzed left and right shoulder three groups using different modes of fixity immobilization, the left shoulder, left-right (LR) 、craniocaudal (CC) and anteroposterior (AP) directions, respectively, with the standard deviation of the mean 0.51 ± 0.9 cm, 0.43 ± 0.36 cm, 0.38 ± 0.34 cm, second the old-SR (Shoulder retractor) 0.38 ± 0.26 cm, 0.33 ± 0.19 cm, 0.26 ± 0.23 cm, the third new-SR 0.25 ± 0.18 cm, 0.18 ± 0.19 cm, 0.23 ± 0.21 cm, the right shoulder 0.57 ± 0.59 cm, 0.46 ± 0.38 cm, 0.31 ± 0.24 cm, second the old-SR 0.31 ± 0.26 cm, $0.30.21$ cm, 0.26 ± 0.21 cm, the third new-SR 0.28 ± 0.27 cm, 0.16 ± 0.14 cm 0.32 ± 0.91 cm. Statistical data on the left and right shoulder, whether used on LR 、CC direction fixity of old-SR or new-SR fixed effects are to be better than using the line drawing mode ($P < 0.001$), The old-SR compared to the new SR only CC direction than the old-SR fixity good ($P < 0.001$) LR and AP direction left and right shoulder was no significant difference, from the result that there is no immobilization simply draw a line using only the patient's shoulder to put a given location is not the most ideal way.

Keywords: H&N Cancer, CBCT, Shoulder Retractor