

DOSIMETRY IN TREATMENT OF MALIGNANT

LYMPHOMA WITH MANTLE TECHNIQUE

BY

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ABSTRACT

In the treatment of malignant lymphoma using mantle technique, large fields with outside borders of up to 42 x 40 cm are blocked to shield regions where the radiation is not desired, such as lungs. There will be variations of doses to the treated regions, the shielded areas may even be irradiated by some doses.

The chamber of Farmer sub-standard dosimeter type 2502 was inserted into the phantom at the points of interest to measure the exposure dose in roentgen and then converted into absorbed dose in rad. There are eleven points of interest to be measured both in the primary beam and shielded areas. A wax phantom with cork as lungs is represented a patient to be treated by the cobolt-60 teletherapy machine (Siemens Gammatron 3). The capacity of the machine is 4660 Rhm. (April, 1974).

Dose at each point is collected when the total tumor dose is 4000 rads. Because radiation beam traverses different thickness and different densities of tissue, so the dose at one point will be different from the others. Dose to shielded areas such as lungs, larynx and eyes which are contributed from primary beam, internal scatter, penumbra and by transmission are 8.2%, 10.8% and 14.4% respectively.