Abstract

Verification is a crucial process in radiotherapy because it assures the compatibility of treatment since the success of radiotherapy was judged by an error < ±5%.The treatment of tangential field needs and integration of several steps for accurate set up and perfect delivering of radiation dose. The main objective of this study was to verify the treatment plan of the tangential field of breast cancer patient using a portal film and contour as reference for 50 breast cancer patients in Radiation and Isotope Center of Khartoum (***RICK***) in period from December 2009 to May 2010. The study compared the breast area, exposed lung and the overshine area. The mentioned area was measured by using interactive method to trace out the outlines of the region of interest. The result of this study showed that the mean areas of the breast in the portal film and contour where 56.9cm^2 and 63.8 cm^2 respectively and that of the exposed lung was 21.2 and 23.2 cm and for over shine area was 31.2 cm^2 and 29.3 cm^2.

الخلاصة

تعتبر عملية التحقق امراً في غاية الاهمية في العلاج بالاشعة لانها تؤكد مدي التطابق والتوافق بين حقل الاشعاع الحقيقي والافتراضي, وذلك لان هناك نسبة خطاء مقبولة تساوي ± 5٪ بين الحقلين. ويحتاج علاج حقل التماس الي تكامل العديد من الخطوات للوصول الي الوضع الصحيح والجرعة الاشعاعية المطلوبة. والهدف الاساسي من هذه الدراسة هو التحقق من خطة العلاج حسب حقل التماس لعلاج مرضى سرطان الثدي باستخدام الفلم المدخلي والكنتور كمرجعية للقياس لعدد خمسين مريضة بسرطان الثدي في المركز القومي للعلاج بالاشعة والطب النووي بالخرطوم خلال الفترة (ديسمبر 2009- مايو 2010). قامت الدراسة بمقارنة منطقة الثدي والمنطقة الرئوية المعرض للاشعاع و منطقة الاشعاع المباشر. وقد تم قياس المناطق المذكورة عن طريق وسيلة فعالة لتحديد حدود المنطقة المعينة. وقد اوضحت الدراسة ان متوسط مناطق الثدي في الفلم المدخلي وفي الكنتور تساوي 56.9 سم 2 و 63.8 سم 2 علي التوالي. اما بالنسبة للجزء المعرض من الرئة فهو يساوي 21.2سم 2

و 23.2سـم 2 وبالنسبة لمنطقة شبه الظل فهو 31.2سـم 2 و 29.3سم 2.

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Section Two:

List of Abbreviation

CLD	central lung distance
CT	computed tomography
CTV	Clinical target volume
2D	two dimensions
3D	Three dimensions
3DCRT	three dimension conformal radiotherapy
FNA	Fine Needle Aspiration
IDL	Interactive Data Language
IMRT	Intensity Modulated Radiation Therapy
IORT	intraoperative radiation therapy
LN	Lymph Node
M	Metastases
MRI	Magnetic resonance imaging
N	Regional lymph nodes

PTV	Planning target volume
RICK	Radiation and Isotope Center of Khartoum
SDD	Source diaphragm distance
T	Tumor size
TPS	Treatment Planning System
TV	Target volume

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Dedication

To My:

Father

Mother

Brothers

Sister

Husbands'

Daughters

Teachers

Friends

Colleges

Students

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Researcher