

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 $< \pm 5\%$. 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 were 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 الأهمية في العلاج بالاشعة لانها تؤكد مدى التطابق والتوافق بين حقل الاشعاع الحقيقي والافتراضي, وذلك لان هناك نسبة خطأ مقبولة تساوي $\pm 5\%$ 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 والكتور 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 المعنية. وقد اوضحت الدراسة ان متوسط مناطق الثدي في الفلم المدخلي وفي الكتور تساوي 56.9 سم² و 63.8 سم² علي التوالي. اما بالنسبة للجزء المعرض من الرئة فهو يساوي 21.2 سم²

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

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List of Abbreviation

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

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

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Dedication

To My:

Father

Mother

Brothers

Sister

Husbands'

Daughters

Teachers

Friends

Colleges

Students

Acknowledgement

I wish to express my deepest and thanks to Dr.Mohamed Elfadil Mohamed Head of Radiotherapy Department, College of Medical Radiologic Sciences, Sudan University of Science &Technology, for his continuous supervision, assistance, and advice during the preparation so as to complete this work.

My gratitude also like to Dr-Mohamed Ahmed Ali Omer for his great support and encouragement

Also extended my thanks to the staff members of College of Medical Radiologic Sciences and staff members of radiotherapy & Diagnostic department (RICK (

Deep thanks to the staff members of medical physics Department (RICK) and special gratefulness to my husband hamed.

My deeps gratitude and special appreciation extended to my family and friends.

I am very grateful to any one who contributed by any means in this work.

Researcher