hossam maghraby

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

hossam maghraby

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

hossam maghraby

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بعض الوثائق الأصلية تالفة

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شبكة المعلومات الجامعية

بالرسالة صفحات لم ترد بالأصل

ROLE OF COMPUTER PLANNING AND CT GUIDED PLANNING IN MINIMIZING RADIOTHERAPY INDUCED COMPLICATIONS IN PATIENTS TREATED WITH POSTOPERATIVE RADIOTHERAPY FOR CARCINOMA OF THE BREAST

Thesis

Submitted for Partial Fulfillment of M.D. Degree

In

"Radiation Oncology"

By

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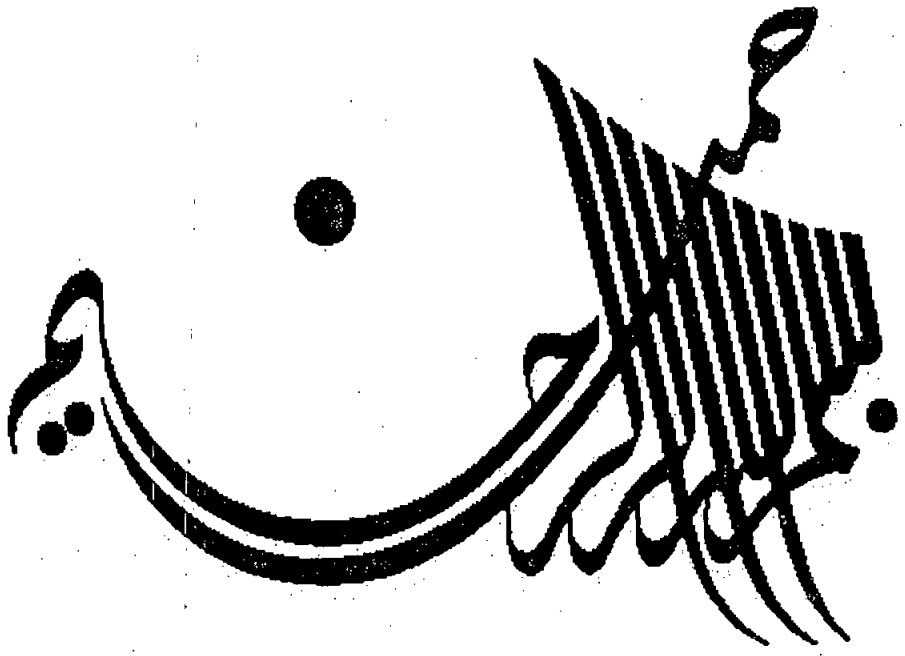
بسم الله الرحمن الرحيم

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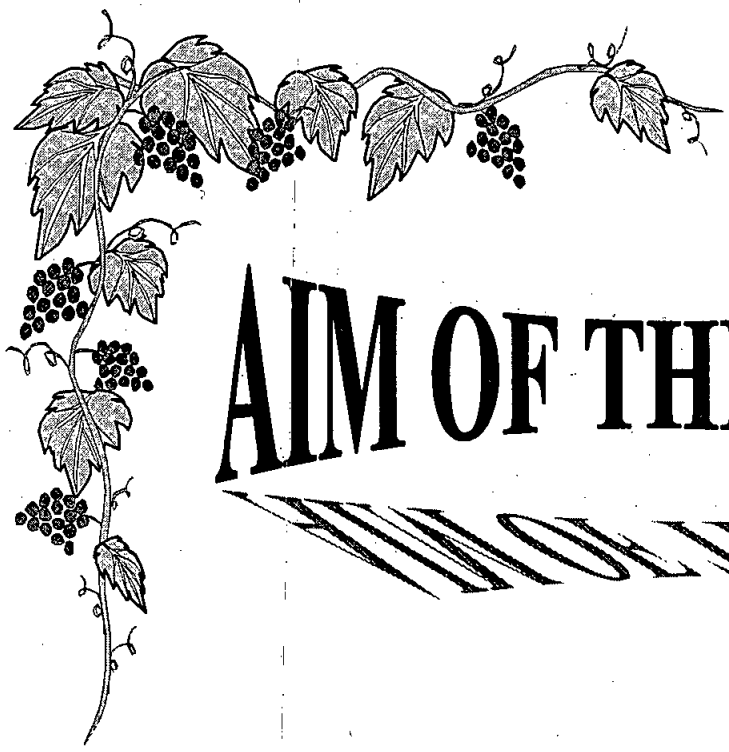
Abbreviations

LRF	:	Locoregional failure
OS	:	Overall survival
DFS	:	Disease free survival
CW	:	Chest wall
IMN	:	Internal mammary mode
ERM	:	Extended radical mastectomy
RT	:	Radiotherapy
TM	:	Total mastectomy
RORTC	:	European Organization for Research and treatment of cancer
RICAD	:	Radiation induced coronary artery disease
RIHD	:	Radiation induced heart disease
CLD	:	Central lung distance
GPD	:	Greatest perpendicular distance
3DRTP	:	3-Dimensional radiation treatment planning
PTV	:	Planning target volume
CTV	:	Clinical target volume
CAX	:	Central axis .
BEV	:	Beam's eye view.
DVH	:	Dore volume histogram
ICRU 50	:	International commission on radiation units and measurements report 50
Ext tang f	:	Extended tangential field.

CONTENTS



AIM OF THE WORK

AIM OF THE WORK

The aim of the present study is to assess the importance of accurate dose distribution plan to avoid pulmonary and cardiac complications in patients treated from carcinoma of the breast.

REVIEW OF LITERATURE

ROLE OF POSTMASTECTOMY RADIATION THERAPY

In June 1901 William Pusey MD, of Chicago, accepted a 45-year female patient recently operated upon for breast cancer. She was referred with the request that "prophylactic" roentgen therapy to be given in an effort to reduce her otherwise extremely high probability of recurrence. This woman was the first reported breast cancer patient to be treated with adjuvant irradiation. For decades since, the use of irradiation as an adjuvant to mastectomy has been an issue of controversy and debate [1].

Although few can debate the ability of radiotherapy to decrease the rate of loco-regional failure (LRF) after mastectomy but still the following questions have to be answered: Are there subgroups of patients who are at a higher risk for failure and would benefit from postoperative treatment? Does the rate of failure justify the use of radiotherapy on routine basis? If so, would treatment confer a survival benefit? [2].

Tumor size and axillary nodal status are the two main risk factors to be considered. Other quoted criteria include insufficient surgical margin, multiple tumors, lmpho-vascular invasion and / or infiltration of the skin or the pectoral muscles[3,4].

For stage III and non-metastatic stage IV breast, the locoregional recurrence rate is 30 % to 40% with mastectomy alone, and equally

high with mastectomy and chemotherapy. So adjuvant irradiation is extremely valuable because of its ability to reduce this incidence to a negligible levels [1,5]. Keeping the risk of locoregional recurrence low is of benefit since even the most aggressive effort to control such a recurrence, once it has occurred, will fail in 50% to 70% of the patients [1,6,7]. At least 60% of uncontrolled patients will develop severely disabling locoregional symptoms [1]. Bedwinek et al (1981) illustrated the incidence of significant morbidity caused by uncontrolled LRF in 100 breast cancer patients as follows: 47% suffered from bleeding and or ulceration requiring daily dressings, 17% pain requiring narcotic analgesics, 7% arm edema and brachial plexus paralysis in 3%[7]. Thus, postoperative irradiation is considered an essential part of the treatment program for stage III and non-metastatic stage IV breast cancer. A much more difficult question is whether adjuvant irradiation offers any advantage for patients with clinical stage I and II breast cancer in whom the locoregional recurrence rate after mastectomy alone is only 10% to 20%. It is difficult to justify offering such local treatment unless it will improve survival [1].

Most of isolated local recurrence usually took place within the first 3 years and in most cases it occurred as a part of a more widespread disease [8]. The risk of distant metastasis decreased with increasing interval from local recurrence. Within 10 years following the local recurrence 90% had developed progressive disease, thus pure