Dedication

I would like to dedicate the benefits of this research to my parents (Ahmed & Hamamah) who are encourage me to follow the spiral of education

To my lovely waive (Shafikah) and my brothers (AL-Ezzi & Fatehi)

To Dr. Mohamed Ahmed and Dr. Mohamed alfadel

To my best friends (Lemiaa, Amer and Amin)

To my colleagues

To any one that help me in this research

AKNOWLEDGEMENT

My acknowledgements and gratefulness at the beginning and at last is to God who gave me the gift of the mind, I extremely grateful to many people who supported me during the preparation of this study, I would like to thank everybody who assisted in some way or another to make this research appear to light. Specifically I would like to express gratitude to.. Dr .Mohammed Ahmed Ali who assisted me to collect data for the completion of this thesis.

My thanks are also to the teachers who gave their useful generous advices. Once again I would like to acknowledge the support of my long-suffering family, special thanks to my aunts and parents.

Finally I would like to thank everyone who has participated in the completion of the research.

Abstract

This study focused on the bone metastasis from breast cancer, therefore the main objective of this study was to determine the ratial (Tribe) distribution and the geographical distribution of breast cancer using many diagnostic screening, specialties (Bone scan) in Yemen. This study was conducted at Radiation and Isotopes Center in Sanaa at the nuclear medicine department, in the period from Jan 2010 to Jun 2011. The data were

collected from 50 patients with breast cancer. 99mTc-MDP was administered to the patients intravenously (20 mci) and gamma camera 'Philips' was used. By using excel. The result showed the anatomical site of breast cancer metastasis in skeletal system, it reveals the predominant anatomical site being involved by breast cancer secondaries were the Chest(ribs), Column vertebrae (C.v + Th.v + L.v) , skull, pelvis, upper and lower extermites and other organ (liver, lung), which taking 19%, (5,2%, 12.1% ,10.3%), 12.1%, 13.8%, 8.6%, 12.1 &6.9% respectively. While the spread to ribs and column vertebrae common metastasis on skeletal bone, And the incidence of breast cancer was linearly associated with the age.

الخلاصــــــــــة:

هذه الدراسة اهتمت بانتشار سرطان الثدي إلى العظـام وعليـه

الهدف الرئيسي ـ من هـذه الدراسـة هوتحديـد انتشـار سرطان

الثـدي ومعرفـة التوزيـع الجغرافـي باسـتخدام الماسـحات

التشخيصية وبالأخص المسح الذري للعظام باستخدام النظائر المشعة بقسم الطب النووي في صنعاء في الفترة من يناير 2010 الي يونيو 2011 . تم جمع البيانات من 50 مريض يعانون من سرطان الثدي تم حقنهم بالتكنيشيوم المشع مع المادة الصيدلانية إل آم دي بي عن طريق الأوردة وأخذت البيانات بجهاز إلجاما كاميرا أظهرت نتائج الدراسة إن أكثر الأماكن انتشارا من سرطان الثدي في الهيكل العظمي هي الصدر, العمودالفقري, الاضلاع,الجمجمة ,والأطراف العليا والسفلي وأماكن أخرى (الكبد والرئتين) بنسبة 19%,(%5.2, 12.1%,(10.3%,), 12.1% , 13.8% , 8.6% , 12.1% و 6.9%

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بينما الانتشار للصدر والعمود الفقري هما الشـائع مـن انتشـار

سرطان الثـدي للهيكـل العظمـي , .كمـا أوضـحت أن حـدوث

سرطان الثدي يرتبط خطيا مع العمر.

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List of abbreviations:

Abbreviation	Meaning
BRCA1	
BRCA2	
NOCS	**National Oncology Centre of Sanaa**
C V	**Cervical Vertebra**
TH.V	**Thoracic vertebra**
L.V	**Lumber vertebra**
CH	**Chest (ribs & axilla)**
SK	**Skull**
Pel	**Pelvis**
Up.ex	**Upper extremities**
Lw.ex	**Lowe extremities**
Lug+liv	**Lung + Liver**

Inv,lob	**Invasive lobular carcinoma**
Inv.duct	**Invasive ductal carcinoma**
IMCa	**Invasive mammary carcinoma**
FSA	Fibro-cystic adenoma
Aden.Ca	**Adeno carcinoma**
FN	**Folliconadular carcinoma**
MDP	**Methylene diphosphonate**
PRL	Prolactin
MRI	Magnetic Reasons Image
PET	Positron Emission Tomography
TNM	Size of the tumor, Tumor spread to the lymph nodes, Tumor metastasized
SPECT	Single Photon Computed Tomography
FNAC	Fine Needle Aspiration
Th V	Thoracic Vertebrae
NM	Nuclear medicin
NSAIDs	Non-steroidal anti-inflammatory agents
PFS	Progression-free survival
DFS	Disease-free survival
ER	**Estrogen receptor**
PR	**Progesterone receptor**
HR	**Hazard Ratio**
MUGA	**Multy gated acquisitions**
(EKG)	**Electrocardiogram**
SGH	Saudi German Hospitals Group

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