

Dedication

With my love and appreciation I dedicate this thesis:-

To my father's soul,

*To my mother for her endless support
and who always prays for me,*

To any one who ever taught me,

To my brothers and sisters,

*To my colleagues and to all people that I do
love and respect.*

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LIST OF ABBREVIATIONS

CA-125 Cancer Antigen-125

RIA	Radioimmunoassay
Ab	Antibody
Ag	Antigen
HNPPC	Hereditary non polyposis colon cancer
FIGO	Federation of international gynecology and obstetric
RICK	Radiation and isotopes center of Khartoum
SAES	Sudanese atomic energy commission
FSH	Follicle stimulating hormone
LH	Luteinizing hormone
SBRC1	Breast Cancer Type 1 susceptibility protein
BRCA 2	Breast Cancer Type 2 susceptibility protein
PTEN	Phosphate and tensin homolog
DNA	Deoxyribonucleic acid
TAH	Total abdominal hysterectomy
BSO	Bilateral salpingo oophorectomy
ECG	Electrocardiography
GP	General practitioner
IRMA	Immunoradiometric assay
EIA	Enzymeimmunoassay
ELISA	Enzyme-linked immunosorbent assay
FIA	Fluoroimmunoassay
IFMA	Immunofluorometric assay
HCG	Human chorionic gonadotropin

Abstract

Ovarian cancer is common cancer in Sudanese women and it's the fourth most common cause of cancer death among women after cancer of the breasts, lungs and bowel. Therefore evaluation of cancer response to treatment it's crucial. Hence the main objective of this study is to evaluate this cancer response to radiotherapy by using tumour marker called ovarian cancer antigen (CA 125) in order to be able to screen for and diagnose ovarian cancer early, when it's most treatable and before it has the chance to grow and spread .The data of this study was collected from 60 women attending to RICK (Radiation and Isotope Center of Khartoum) divided in two groups the first group include 20 normal healthy women which selected as a control group and for determination of the normal range of CA 125 and we found the average of this group is about 13.6 which corresponds to the international range (0--35 UI/ml) and the second group contains 40 patients diagnosed confirmed histopathologically as cases of ovarian cancer. The procedure done by taking 3cc (3ml) of venous blood from each subject and then use this technique for estimating the level of this tumour marker. It is proved that the value of this tumor marker is very high in samples collected from ovarian cancer patients. The study showed that the level of CA 125 goes down after having radiotherapy. The researcher noted that the mean value of this antigen before radiotherapy was 208.7 (which is very high) and goes down during radiotherapy until the average reaches 65.6, and continuous in reduction until it reaches the international standard level of

17.9, after finishing the treatment by one week. Beside the study results connected with patient's age and the stage of the disease. The Researcher found that it may be directly proportional to both of them.

ملخص الدراسة

سرطان المبيض من السرطانات المنتشرة وسط النساء فى السودان ويأتى فى المرتبه الرابعه من حيث انواع السرطانات المسببه للوفاة بعد سرطان الثدي والرئه والأمعاء لذلك تقويم إستجابة هذا النوع من السرطان للعلاج يعتبر من الأهميه بمكان لذا كان الهدف الأساسى من قيام هذه الدراسة هو تقويم إستجابة سرطان المبيض للعلاج بالأشعه بإستخدام احد ميسمات الأورام يسمى ميسم سرطان المبيض وكذلك للمساعدة فى الاكتشاف المبكرحتى نتمكن من الوقايه بالتشخيص المبكروعدم إعطاء المرض فرصه للإنتشاروهي المرحله التى يسهل فيها العلاج . و قد تم جمع البيانات لهذه الدراسة بأخذ عينه م قدارها 3مل عبر الوريد من دم 60 إمراة حضرن للمركز القومي للعلاج بالأشعه والطب النووى الخرطوم (مستشفى الذرة) و قد تم تقسيمهن الى مجموعتين .

المجموعه الأولى تضم 20 إمراة وهن من الأصحاء أى غير مصابات بسرطان المبيض و قد تم إختيارهن لهذه الدراسة حتى يصبحن كمجموعه قياس ولتحديد المعدل الطبيعى لهذا المؤشر (الميسم) و قد وجد متوسط المعدل لهذه المجموعه حوالى 13.6 وهو ما كان متوافقاً مع المعدل العالمى الذى يتراوح من 0 إلى 35 وحده عالميه / مل.

المجموعه الثانيه وتضم 40 إمراة ثبت سريريا إصابتهن بسرطان المبيض وعند إستخدام نفس التقنيه لقياس مستوى هذا الميسم فى العينات المأخوذه من هذه المجموعه وجد أن المعدلات عاليه جداً. و قد لوحظ عند الدراسة أن المعدلات بدأت تنخفض مع العلاج الإشعاعى حيث كان المتوسط قبل بداية

العلاج 208.7 لينخفض إلى 65.6 أثناء العلاج حتى يصل إلى 17.9 بعد إسبوع من نهاية جلسات العلاج بالأشعة وهو ما ينسجم مع المعدل الطبيعي العالمي. كما ربطت النتائج بإمكانية تأثير العمر وكذلك مرحلة المرض على مستوى هذا الهرمون والتي أظهرت أن الزيادة ربما تكون طردية مع تقدم العمر وكذلك مع تأخر مرحلة المرض.

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