بِسْمِ اللّهِ الرَّحْمَنِ الرَّحِيمِ

قال الله تعالى

اللَّهُ نُورُ السَّمَاوَاتِ وَالْأَرْضِ مَثَلُ نُورِهِ كَمِشْكَاةٍ فِيهَا مِصْبَاحٌ الْمِصْبَاحُ فِي زُجَاجَةٍ الزُّجَاجَةُ كَأَنَّهَا كَوْكَبٌ دُرِّيٌّ يُوقَدُ مِن شَجَرَةٍ مُّبَارَكَةٍ زَيْتُونِةٍ لَّا شَرْقِيَّةٍ وَلَا غَرْبِيَّةٍ يَكَادُ زَيْتُهَا يُضِيءُ وَلَوْ لَمْ تَمْسَسْهُ نَارٌ نُّورٌ عَلَى نُورٍ يَهْدِي اللّهُ لِنُورِهِ مَن يَشَاءُ وَيَضْرِبُ اللّهُ الْأَمْثَالَ لِلنَّاسِ وَاللّهُ بِكُلِّ شَيْءٍ عَلِيمٌ

صدق الله العظيم

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Dedication

This thesis is dedicated to the soul of my father, who taught me that the best kind of knowledge to have is that which is learned for its own sake. It is also dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time.

This thesis work is dedicated to my husband, Mohmmed, who has been a constant source of support and encouragement during the challenges of graduate school and life. I am truly thankful for having you in my life. This work is also dedicated to my sons, my sisters and my brothers, who have always loved me

Acknowledgements

Foremost, I would like to express my sincere gratitude to my supervisor Dr. Nadia Madni for the continuous support of my research, her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis.

Besides my advisor, I would like to thank my colleague Salaheldein Elzaki for his help, advise, encouragement and insightful comments.

My sincere thanks also go to the staff of molecular epidemiology laboratory at tropical medicine research institute for their help and hosting me in their lab to carry out my practical work.

Last would like to thank all of the women who participated in this Study.

Abstract

This study was carried out Khartoum State at Khartoum Isotope Radiation Centre (RICK), from the period April –September 2013, to study the methalanetertahydrofloate reductase polymorphism with breast cancer risk, and to compare it with normal population. 96 individuals were included in this study of which 60 patients with breast cancer originating from different ethnic group and part of Sudan, and 36 were women without breast cancer as normal controls.

Five ml EDTA blood was taken for hematological parameters. All of our studies patients had low hemglobin level below 10 gm/dl (p-value=0.127)insignificant, and 15% of the patients had thrombocytopenia(less than 150.000/cum) p-value=0.2) insignificant, 50% of the studies group had normal WBCs(4000-6900), 30% had increased WBC count(more than 7000/cum) (and 20% had decreased WBC count(less than 4000/cum) P-value=0.365)insignificant.

A cross sectional hospital based study was conducted in this study.

16.7% of breast cancer patients had TC alleles of *MTHFR* and none of the controls had mutation (Chi sequre test=6.96. *P.value*=0.01), the results showed highly significant of the TC mutation compared with normal controls.

The majority of the breast cancer patients whom had TC alleles were women under 40 years, and this could be risk of having breast cancer.

high frequency of breast cancer had been observed among northern State.

□□□□□□□□

اجريت هذة الدراسة فى الفـترة مـن ابريـل –اغسـطس 2013 فـى ولايـة الخرطـوم المركـز القومى للعلاج بالذرة لدراسة انزيم الميـاثيلين تتراهـادروفوليت ومـدى تـاثيرة علـى سـرطان الثدى عند النساء فى ولاية الخرطوم وذالك باستخدام تفنية البلمرة الجينية فـى حـالت وجـود طفرة جينية مقارنة بنساء اصحاء

تم اختيار ستون مريضة بسرطان الثـدى بعـد التشـخيص , سـت و ثلاثـون عبنـة مـن الاصـحاء كمجموعة ضبط,وقد تم اخذ خمسة مليميـتر مـن الـدم الوريـدى مـن كـل مريـض فـى اثنيـن انبوب به مانع من التجلط واحدة لقياس نسية الهميقلوبين وعدد كريات الم البضاء و الصـفائح الدموية و الاخرى لفصل الحمض النووى وكانت النتائج فى كل شريحة الدراسة لديهم نقصـان فى قياس نسبة الهيمقلمبين وهى اقل من عشرة جرام فى الديسليتر وهى تعتبر نسبة ضعيفة ,كما وجدت عدد كريات الدم البيضاء عشرون فى المائة اقل من الطبيعى (اقل من اربعة الف فى المليميتر المكعب) , و ثلاثون فى المائة اكثر من الطبيعى (اكثر من سبعة الف) وخمسون فى المائة لديهم عدد طبيعى للكريات البيضاء , اما الصفائح الدموية خمسة عشـر فـى المـائة (اقل من الطبيعى (اقل من مائة و خمسون الف فلى المليمتر المكعب

كما لوحظ ان ستة عشر وسبعة من عشرة فى المائة من المرضى المصابيين بسرطان الثدى لديهم طفرة جنية للانزيم كما لاتوجد هذة الطفرة عند الاصحاء وعنـد اسـتخدام برنامـج الهـزم الاحصائية .كانت قيمة الاختبار واحد من مائة .

وجدت ان غالبية المرضى فى الفئة العمريـة مـابين ثلاثـون الـى اربعيـن عـام كمـا ان الولايـة الشـمالية هـى الاكـثر انتشـارا للمـرض لـذالك نوصـى بعمـل دراسـة تشـمل الفئة العمريـة و المنطقة المزكورتين

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FNAC:	Fine Needle Spiration cytologyy.
Dump:	Uridine mono phophate
TMP:	Thymidine mono phosphate.
FAD:	Flavin adenine dinuclotide.
MTHFR:	Methylenetetrahydrofolate Reductase.
FA:	Folic Acid.