

**Sudan University of Science and
Technology**

College of Graduate Studies

**Assesment of Serum Magnesium and Urate
In Healthy**

Sudanese Pregnant Women

**تقييم الماغنسيوم واليورات فى مصل الدم عند الحوامل
السودانيات الصحيحات**

**A thesis submitted in partial fulfillment of MSc in
clinical chemistry .**

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Dedication

TO...

my parents

TO...

my Brothers and Sisters

And TO...

All Frinds and Teachers

I

Dedicate this work

Shema

Acknowledgments

I would like to express profound thanks to my supervisor ,Dr .Bader Eldien Hassan Elabid for his furiful guidance , unlimited assistance and encouragement throughout the course of this work .

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Abstract

A cross-sectional study conducted during the period from February to July 2011 , compared serum levels of magnesium and urate of 50 healthy pregnant women (as a test group) and 30 apparently healthy non-pregnant volunteers (as a control group) . All were from Khartoum state . The test group and the control group were matched for age . The serum levels of magnesium and urate were measured using a spectrophotometer and commercial Kits from Bio system and Sry Bio Company .

The mean of the serum magnesium was significantly reduced in the test group when compared to the control group , where as serum urate was significantly raised in the test group . Serum magnesium showed a significant strong positive correlation with the duration of pregnancy ,while serum urate showed a weak insignificant correlation with the duration of pregnancy .

From this study , it is concluded that ; pregnancy is associated with significant reduction in serum magnesium that correlates strongly with the duration of pregnancy and serum urate is significantly raised during

pregnancy and correlates weakly with the duration of pregnancy .

مستخلص الدراسة

اجريت هذه الدراسة المقطعية فى الفترة من فبراير حتى يوليو 2011 حيث تمت مقارنة مستويات الماغنسيوم واليورات فى مصل الدم عند 50 من الحوامل الاصحاء مع 30 من الاصحاء غير الحوامل كمجموعة تحكم (مجموعة ضابطة),تم اختيار الحوامل والمجموعة الضابطة من ولاية الخرطوم وتمت مطابقتهم فى العمر تم قياس الماغنسيوم واليورات باستخدام جهاز التحليل الذاتى ومحاليل تجارية من شركة بايو سستم وسيربايو . فى هذه الدراسة اظهرت مستويات الماغنسيوم فى مصل الدم انخفاض ذو دلالة احصائية معنوية عند مقارنة مجموعة الاختبار بالمجموعة الضابطة ,وايضا مستويات اليورات اظهرت تغيير ذو دلالة احصائية معنوية .

اظهرت مستويات الماغنسيوم فى مصل الدم ارتباط موجب وقوى و ذو دلالة احصائية معنوية مع فترة الحمل ,بينما لم تظهر مستويات اليورات فى مصل الدم ارتباط ذو دلالة معنوية احصائية مع فترة الحمل .

من هذه الدراسة ,نخلص للاتى :الحمل يرتبط مع نقصان ملحوظ فى الماغنسيوم فى مصل الدم والذي بدوره يرتبط ارتباط موجب وقوى ذو

دلالة احصائية معنوية مع فترة الحمل .اليورات يتغير تغير ملحوظ مع فترة الحمل ويرتبط ارتباط عكسى ضعيف مع فترة الحمل .

Abbreviations

APRT	Adenine phosphoribosyl transferase
EDD	Expected date of delivery
GFR	Glomerular filtration rate
HGPRT transferase	Hypoxanthine guanine phosphoribosyl
LMP	last menstrual period
PTH	parathyroid hormone
PRPP	Phosphoriboseyle pyrophosphates

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