

Dedication

**To the spirit of my father...
And to my mother, brothers, sisters,
and friends,
I dedicate this work.**

Acknowledgments

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Abstract

A cross-sectional study conducted during the period from November 2009 to July 2010, compared serum levels of calcium, phosphate and alkaline phosphatase activity 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 calcium, phosphate and the activity of alkaline phosphatase were measured using BTS #71895 humalyzer analyzer and commercial kits from Biosystem Company.

Serum calcium was significantly reduced, while serum phosphate was not significantly changed, whereas alkaline phosphatase activity was significantly raised in the test group compared to the control group.

In the test group, serum calcium and phosphate showed insignificant correlation with the duration of pregnancy, whereas serum alkaline phosphatase activity showed significant strong positive correlation with the duration of pregnancy.

From this study, it is concluded that; pregnancy is associated with significant reduction in serum calcium that correlates weakly with the duration of pregnancy. Serum phosphorus is not significantly changed during pregnancy and has insignificant correlation with the duration of pregnancy. In addition serum alkaline phosphates activity is significantly raised and has a strong positive significant correlation with the duration of pregnancy.

Abbreviations

ALP	Alkaline phosphatase
ATP	Adenosine triphosphate
DNA	Deoxyribonucleic acid
EC	Enzyme commission
EDD	Expected date of delivery
GFR	Glomerular filtration rate
LMP	Last menstrual period
PTH	Parathyroid hormone
RNA	Ribonucleic acid

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Serum Alkaline phosphatase:U/L