

# **Dedication**

**To my parents**

**To my husband**

**And to my family**

**Nagla**

## Acknowledgments

First and end thanks go to God ("Allah") for helping me to complete this research.

I am so grateful to my supervisor Dr. **Ghada Abdelrahman** associate professor of clinical Chemistry College of medical laboratory sciences for her guidance, understanding and constructive advice and help.

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## Abstract

The objective of this study was to assess serum anticardiolipin and serum progesterone in Sudanese women with recurrent miscarriage in comparison with apparently healthy women.

A cross – sectional ,hospital based study was conducted during the period from March 2011 to April 2012 , in Khartoum state . 86 blood samples were collected from woman with recurrent miscarriage (case group), and 86 blood samples from woman with apparently healthy ( control group) ,age were matched in both groups . serum anticardiolipin and serum progesterone were measured using ELISA and commercial kits from EROIMMUNE and DRG Company .

The results showed a significant increase in means serum anticardiolipin antibodies (ACL) in patient group ( $5.554 \pm 3.421$  ng/dL) when compared with the control group ( $1.197 \pm 1.111$  ng/dL) P value 0.000 .There were significant decrease in serum progesterone among patient group ( $4.419 \pm 2.932$  ng/dL) when compared with the control group ( $32.01 \pm 2.939$  ng/dL) P .value 0.000. There were significant increase in means serum anticardiolip in case group group ( $5.554 \pm 3.421$  ng/dl) when compared with both control groups, control pregnant group ( $1.23 \pm 0.999$  ng/dL) P .value 0.001, and control non pregnant group ( $1.161 \pm 0.112$  ng/dL) P value 0.000. There were significant decrease in serum progesterone in the patient group ( $4.419 \pm 2.932$  ng/dL) when compared with both controls , control pregnant group women ( $20.042 \pm 17$  ng/dL) P value 0.000, and control non pregnant group ( $8.06 \pm 5.80$  ng/dL) P value 0.000 .There was significant positive correlation between serum anticardiolipin and serum progesterone ( $r=0.245, p=0.02$ ). There was insignificant positive correlation between the number of miscarriage and serum progesterone ( $r=0.122, p=0.2$ ) ,also there was insignificant positive correlation between the serum anticardiolipin and the number of miscarriage ( $r=0.151, p=0.166$ ) .The frequency of positive anticardiolipin among case group was 11.6 % while it was 1.2% among control group .

Conclusion: There were significant increase in serum anticardiolipin ,and significant decrease in serum progesterone of the case group when compared to the control group. There was significant positive correlation between serum anticardiolipin and serum progesterone .11.6% had appositve anticardiolipin case study while 1.2% in control group.

## مستخلص الدراسة

الهدف من هذه الدراسة هو تقييم العلاقة بين الكارديوليبين الأجسام المضادة وهرمون البروجستيرون في مصل الدم لدى النساء السودانيات متعدّدات الإجهاض مقارنة بالنساء الأصحاء ظاهرياً.

اجريت هذه الدراسة المقطعية فيمستشفى الخرطوم في الفترة من مارس ٢٠١١ حتى ابريل ٢٠١٢.

سحبت ٨٦ عينة دم من النساء اللواتي يعانين من اجهاض متكرر (مجموعه اختبار) و ٨٦ عينة دم من النساء الاصحاء (مجموعه ضابطه). وتمت مطابقه المرضى مع المجموعه الضابطه في العمر تم قياس مستويات مضادات الكارديوليبين وهرمون البروجسترون باستخدام جهاز الاليزا ومحاليل تجاريه من شركه EROIMMUNE و DRG. في هذه الدراسة اظهرت مستويات مضادات الكارديوليبين في مصل الدم ارتفاع ذو دلالة احصائية معنويه عند مقارنة مجموعته الاختبار بالمجموعه الضابطه وايضا مستويات البروجسترون في مصل الدم انخفاض ذو دلالة احصائية معنويه مقارنة بالمجموعه الضابطه. وكذلك اظهرت مستويات مضادات الكارديوليبين في مصل الدم ارتفاع ذو دلالة احصائية معنويه عند مقارنة مجموعته الاختبار بالمجموعه الضابطه (حوامل+غير حوامل) وايضا مستويات البروجسترون في مصل الدم انخفاض ذو دلالة احصائية معنويه مقارنة بالمجموعه الضابطه (حوامل+غير حوامل). اظهرت مستويات مضادات الكارديوليبين والبروجسترون في مصل الدم ارتباط ذو دلالة احصائية معنويه بينما اظهرت مستويات مضادات الكارديوليبين والبروجسترون في مصل الدم مع الاجهاض المتكرر ارتباط ضعيف ليس ذو دلالة احصائية معنويه. اظهرت الدراسة ان ١١.٦% من مجموعته الاختبار موجب الكارديوليبين مقارنة ب ١.٢% من المجموعه الضابطه. من هذه الدراسة نخلص الاتي: ارتفاع مستويات مضادات الكارديوليبين و نقصان هرمون البروجسترون في مصل الدم سبب للإجهاض المتكرر ذو دلالة احصائية معنويه. وايضا وجد هنالك ارتباط بين مضادات الكارديوليبين والبروجسترون ذو دلالة احصائية معنويه

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## ABBREVIATIONS

APS	Antiphospholipid Syndrome
ACL	Anticardiolipin
EDD	Expected date of delivery
FSH	Follicle. Stimulating hormone
LH	Luteinizing hormone
LNMP	Last normal menstrual period
RM	Recurrent miscarriage