ANTICARDIOLIPIN ANTIBODIES IN PREECLAMPSIA

THESIS

SUBMITTEDFOR PARTIAL FULFILLMENT OF MASTER DEGREE OF OBSTETRICS AND GYNECOLOGY

BY

Sahar Ahmed Youssef
M.B.,B.Ch.
Cairo University, 1991
Resident in El Galaa Teaching hospital

Under Supervision of

Prof. Ali Farid Mohamed Ali
Prof. Obstetrics and Gynecology
Ain Shams University
Faculty of Medicine

Prof. Sherif Mohamed Saleh El-Ghetany
Prof. Of Obstetrics and Gynecology
Ain Shams University
Faculty of Medicine

Dr. Mohamed Ibrahim Mohamed Amer
Lecturer in Obstetrics and Gynecology
Ain Shams University
Faculty of Medicine

1997

Acknowledgment

It is advantageous to work under the supervision of professor Ali Farid Mohamed Ali, Professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, to whom I wish to express my deep gratitude and thanks for his kind supervision, encourgement and energetic help to insure that this work would reach an updated level.

I would like to express my deep gratitude to professor Sherif Mohamed Saleh El-Ghetany professor of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his unforgettable valuable guidance and advice although this work.

I am highly indebted to Dr. Mohamed Ibrahim Mohamed Amer Lecturer of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his kind help and continuous advice in following the details of this work. I am also grateful to him for spending many long hours in careful review of my work.

I also express my appreciation to Prof. Mona Mohamed Rafik Professor of clinical pathology Faculty of Medicine, Ain Shams University for her patience and support and for carrying out the tedious laboratory work with great care and interest.

I would also like to thank prof. Mohesen Gad Allah professor of community medicine Faculty of Medicine, Ain Shams University for his help and guidance in the statistical work.

My Great thanks are also to patients who had tolerated my investigations and without their help this work would have not seen the light.

Finally, I must thank my parents, my sister and Dr. Mahmoud my husband who were always supportive and were of great help .

Sahar

Contents

List of Tables

INTRODUCTION

INTRODUCTION

Anticardiolipin antibodies (ACAs) are circulating auto-antibodies directed against negatively charged phospholipid component of cell membrane . So ACAs are especially important antiphospholipid antibodies **(Peaceman et al., 1992).** ACAs have been reported in habitual abortions of unknown etiology and unexplained intrauterine fetal deaths **(Triplett, 1989).**

It has been proposed that the functions of ACAs are to decrease the production of prostacyclin and fibrinolysis , to prevent protein C activation and to enhance platelet aggregation which might cause abnormal coagulation and platelet agglutination **(Triplett,1989) .** By histological examination of the placentas obtained from preeclampsia, infarction and fibrinoid necrosis have been detected **(Robertson et al., 1986).** These changes seem to be similar to findings concerning placentas taken from ACAs positive pregnancies **(De Wolf et al., 1982 and Branch et al., 1990).**

ACAs have the ability to bind to villous trophoblasts and might cause placental dysfunction . In preeclampsia , the high incidence of placental dysfunctions and intrauterine growth retardation have been reported **(Sibai et al., 1984).**

The possible involvement of the immune system in the pathophysiology of at least some hypertensive disorders of pregnancy has attracted increasing attention **(Redman ,1980)** as abnormal levels of autoantibodies have recently been demonstated with hypertensive disorders of pregnancy **(El Roeiy et al., 1991) .**

Antiphospholipid antibodies are the most frequently recorded abnormalities in pregnancies complicated by

preeclampsia and intrauterine growth retardation (**Branch et al., 1989**).

Lyden et al., (1992) demonstrated that monoclonal antiphosolipid antibody binds to the human placental trophoblasts using an immunohistological technique . Those antibodies reacted with the syncytiotrophoblastic layer , Cyt-otrophoblastic cells and subtrophoblastic stromal region.

Using the placenta eluates taken from ACAs positive patients, **Chamley et al., (1993b)**,also reported that ACAs were bound to antigenic sites within the placenta . Also it has been suggested by **Yamamoto et al., (1996)** , the possibility that ACAs may decrease the placental functions in preeclampsia . The functional changes induced by ACAs has also been reported .**Gleicher et al., (1992)** demonstrated that HCG production by placental culture with ACAs containing sera was inhibited under phospholipase A_2 and phospholipase -C stimulation .

AIM OF WORK

AIM OF THE WORK

I. To estimate the incidence of anticardiolipin antibodies **(ACAs)** in preeclampsia .

II. The relationship between the presence of ACAs in the serum of preeclamptic women and the development of intrauterine growth retardation **(IUGR)** in their offsprings .