

**THE CELL ADHESION MOLECULE "VCAM-1"
AND THE MECHANISM OF LEUKOCYTE
ACTIVATION IN PRE-ECLAMPSIA**



Thesis
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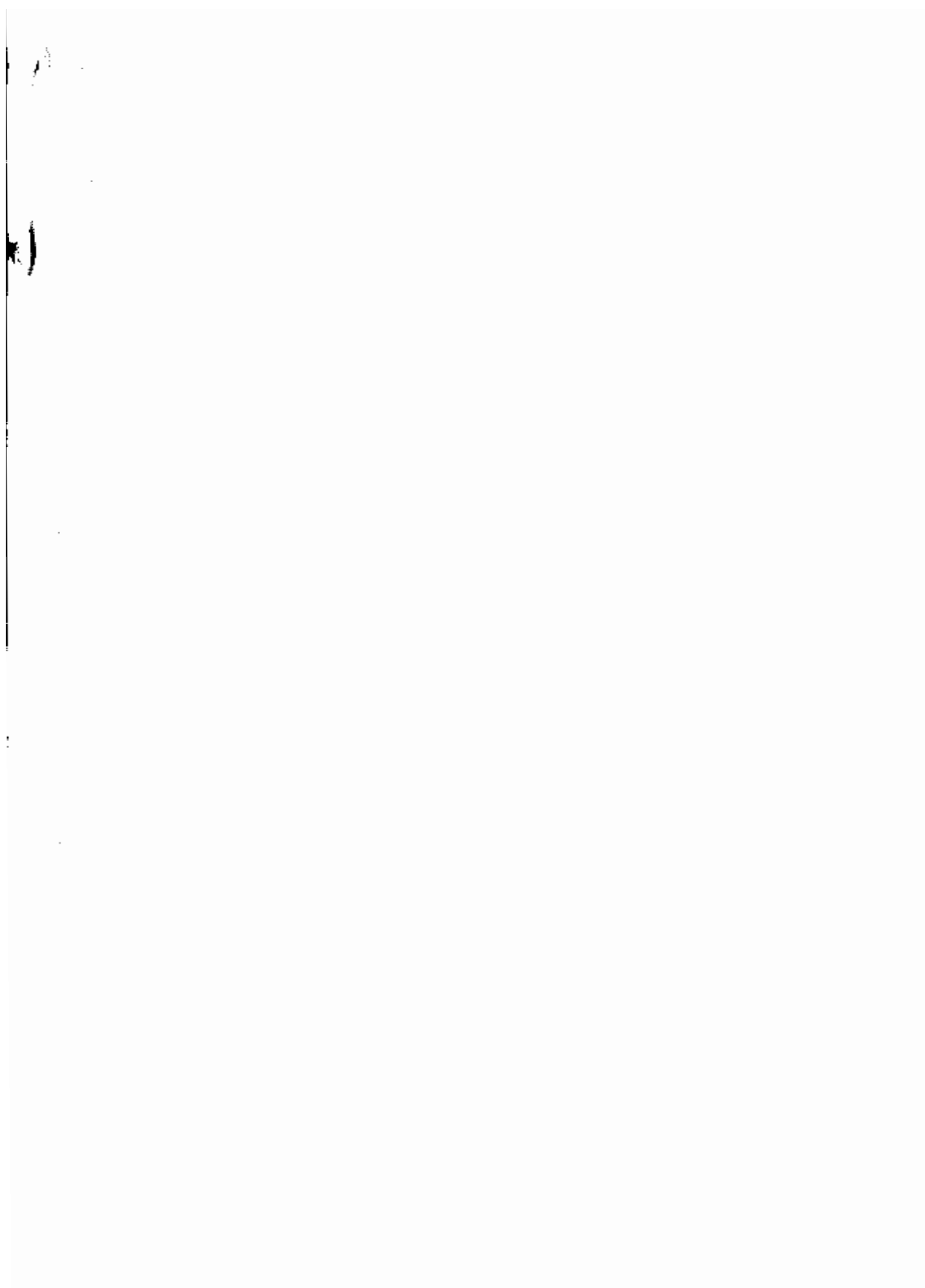


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ABSTRACT

The present study was conducted at Ain Shams University Maternity Hospital to determine the changes that occur in the circulating levels of VCAM-1 in pre-eclampsia, and its relation to the severity of the condition. It included 90 pregnant women attending the hospital in the third trimester of pregnancy or in labor. The patients were divided into two groups; the first group included 60 pregnant pre-eclamptic females, and the second group included 30 healthy pregnant women attending the hospital for routine antenatal care. A blood sample was taken from each participant and was analyzed for the cell adhesion molecule (VCAM-1), total leukocytic counts and platelet counts.

Serum VCAM-1 level was found to be elevated in pre-eclamptic patients compared to controls. The increase of VCAM-1 levels was related to the severity of pre-eclampsia, reflecting endothelial cell injury that occurs in this condition. A positive correlation between VCAM-1 levels and total leukocytic counts and a negative correlation between VCAM-1 levels and platelet count were detected in this study.



KEY WORDS

- Pre-eclampsia.
- Vascular cell adhesion molecule-1.
- Neutrophil activation.
- Endothelial cell injury.
- Thrombocytopenia.
- Leukocytes.

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LIST OF ABBREVIATIONS

ACOG:	American College of Obstetrics and Gynecologists	PIH	:Pregnancy induced hypertension
BP	:Blood pressure	PMN	:polymorphonuclear elastase
C5a	:anaphylatoxins	SD	:Standard deviation
CD	:T Cell differentiation antigen	SGPT	:Serum glutamic-pyruvic transaminase
ADP	:adenosine diphosphate	SGOT	:Serum glutamic - oxaloacetic transaminase
ATP	:adenosine triphosphate	SVCAM	:Soluble vascular cell adhesion molecule
EDCF	:Endothelium - derived contracting factor	tPA	:Tissue type plasminogen activator
EDRF	:Endothelium-derived relaxing factor	TXA ₂	:thromboxane A ₂
EIA	:Enzyme immuno assay	TM	:thrombomodulin
ELISA	:Enzyme-linked immunosorbent assay	TNF α	:Tumor necrosis factor alpha
FMLP	:N-formyl-methionyl-leucyl-phenylamine	uPA	:urokinase type plasminogen activator
Fn.	:Plasma cellular fibronectin	VCAM-1	:Vascular cell adhesion molecule type 1
HRP	:Horseradish peroxidase enzyme	VEGF	:Vascular endothelial growth factor
ICAM	: Intercellular adhesion molecule		
Ig	:Immunoglobulin		
ISSHP	: International society for the study of hypertension in pregnancy		
I.U.G.R	: Intra uterine growth retardation		
LDH	: Lactate dehydrogenase		
LECCAM	: Lectin cellular adhesion molecule		
LFA-3	:Leukocyte functional antigen type 3		
MAP	:Mean arterial pressure		
N-CAM	: Neural cell adhesion molecule		
PAI	:Plasminogen activator inhibitor		
PGI ₂	:Prostacyclin		

