

**Immunomodulation of the Endometrium Using Oral
Prednisolone in Pregnant Women with Unexplained
Recurrent Miscarriage and Normal or High Level of
Uterine Natural Killer (uNK) Cell Density in the
Endometrium: A Randomized Controlled Trial**

Protocol of Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ
لَا عِلْمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ

سورة البقرة
الآية (٣٢)

صَدَقَ اللَّهُ الْعَظِيمُ



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List of Abbreviation

Ab2	Ani-idiotypic antibodies
aCL	Anticardiolipin
ACOG	American college of Obstetricians and Gynecologists
APCA	Anti-paternal cytotoxic antibodies
Apl	Antiphospholipid
APS	Antiphospholipid syndrome
C5a	Complement 5a
CCR	Chemokine receptor
CD94/ NKG2A	Inhibitory receptor that recognizes HLA-E and is expressed by NK cells and a subset of T cells
CSF	Colony stimulating factor
CXCR	G α i protein-coupled receptor in the CXC chemokine receptor family
dNK cells	Decidual Natural killer cells
HLA	Human leukocyte antigen
IFNγ	Interferon-gamma
IL	Interleukin
IVF	In vitro fertilization
KIRs	Killer cell immunoglobulin-like receptors
LGL	Large granular lymphocytes
LIF	Leukemia inhibitory factor

MHC	Major histocompatibility complex
MLR-BF	Mixed lymphocyte reaction blocking antibodies
NK cells	Natural killer cells
RCOG	Royal College of Obstetricians and Gynecologists
RPL	Recurrent pregnancy loss
SCF	Stem cell factor
SLE	Systemic lupus erythematosus
TCR	T-cell receptor
Tg	Thyroglobulin
TGF	Tumour growth factor
Th	T helper lymphocytes
TLR	Toll-like receptor
TPO	Thyroid peroxidase
TRAb	Thyroid stimulating hormone receptor antibody
uNK cells	Uterine Natural killer cells
VCAM	Vascular cell adhesion molecule

Introduction

Recurrent miscarriage:

Miscarriage is defined as the spontaneous loss of pregnancy before the fetus reaches viability. The term therefore includes all pregnancy losses from the time of conception until 24 weeks of pregnancy.

Recurrent miscarriage is different from sporadic spontaneous miscarriage and is defined as the loss of three or more consecutive pregnancies and affects 1% of couples trying to conceive (*RCOG: Green-top Guideline No. 17, 2011*).

The causes of recurrent miscarriage are wide and include:

- 1. Epidemiological factors.**
- 2. Anti-phospholipid syndrome.**
- 3. Genetic factors:**
 - Parental chromosomal rearrangements.
 - Embryonic chromosomal abnormalities.
- 4. Anatomical factors:**
 - Congenital uterine malformations.
 - Cervical weakness.