Clinical Utility of Third Trimester's Endocan-1 Levels in Pregnant Women with Diabetes Mellitus

Thesis

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List of Abbreviations

Abb.	Full term
2hPP BG	2hour post prandial blood glucose
ACOG	American college of obstetrics and gynecology
ACS	Acute coronary syndrome
ADA	American Diabetic association
Alb/creat ratio	Albumin/creatinine ratio
ALT	Alanine transaminase
AST	Aspartate transaminase
AUC	Area under the curve
BMI	Body mass index
CAD	Coronary artery disease
CBC	Complete blood count
CDKAL1	Cyclin-dependent kinase 5 regulatory subunit-associated protein 1-like 1
CKD	Chronic Kidney disease
CNS	Central nervous system
CS	Chondroitin sulfate
CVD	Coronary vascular disease
DKA	Diabetic ketoacidosis
DM	Diabetes mellitus
DS	Dermatan sulfate
ECAM	Epithelial Cell adhesion molecule

Abb.	Full term
ECM	Extracellular matrix
EGF	Endothelial growth factor
ELISA	Enzyme linked immunosorbent assay
ESM-1	Endothelial cell specific molecule-1
FBG	Fasting blood glucose
FFA	Free fatty acids
FGF-2	Fibroblast growth factor-2
FN	False negative
FP	False positive
FPG	Fasting plasma glucose
GAG	Glycosaminoglycan
GCT	Glucose challenge test
GDM	Gestational diabetes mellitus
GFR	Glomerular filtration rate
GLUT-4	Glucose transporter type 4
HCC	Hepatocellular carcinoma
HDL-C	High density lipoproteins Cholesterol
HELP	Hemolysis, elevated liver enzymes, low platelet count
HGF/SF	Hepatocyte growth factor/scatter factor
HPLC	High performance liquid chromatography
HRP	Horseradish. Peroxidase

Abb.	Full term
HS	Heparan sulfate
HsCRP	Highly sensitive C reactive protein
HSPGs	Heparan sulfate proteoglycans
HTN	Hypertension
HUVEC	Human umblical vein endothelial cell
ICAM-1	Intracellular adhesion molecule-1
IFG	Impaired fasting glucose
IGT	Impaired glucose tolerance
Il-6	Interleukin -6
IQR	Interquartile range
IRS-1	Insulin receptor substrate-1
IUFD	Intra uterine fetal death
KCNQ1	Potassium channel voltage-gate KQT-like subfamily member 1
KS	Keratan sulfate
LDH	Lactate dehydrogenase
LDL	Low density lipoproteins
LFA-1	Lymphocyte function-associated antigen-1
LGA	Large for gestational age
MDH	Malate dehydrogenase
mRNA	Messenger RNA
MVD	Micro vessel density

Abb.	Full term
NAD	Nicotinamide adenine dinucleotide
NPV	Negative predictive value
OGTT	Oral glucose tolerance test
PBS	Phosphate buffer saline
PCO	Polycystic ovary
PCR	Polymerase chain reaction
PE	Pre-eclapmsia
PG	Proteoglycan
PI3K	Phosphatidylinositide -3 kinase
PKB	Protein kinase B
PKC/NF- κB	Protein kinase C/ nuclear factor kappaB
PLT	Platelet
PPH	Postpartum hemorrhage
PPV	Positive predictive value
PTE	Pulmonary thromboembolism
PVDF	Polyvinylidene fluoride
qRT-PCR	Quantitative reverse transcription polymerase chain reaction
RBCs	Red blood cells
ROC	Receiver-operating characteristic
RT-PCR	Reverse transcriptase polymerase chain reaction
SD	Standard deviation

Abb.	Full term
SDS-PAGE	SDS-polyacrylamide gel electrophoresis
SGA	Small for gestational age
SH	Severe hypoglycemia
TCF7L2	Transcription factor 7-like 2
TG	Triglycerides
TGA	Transposition of great arteries
TMB	Tetramethylbenzidine
TN	True negative
TNFα	Tumor necrosis factor -α
TP	True positive
UAE	Urinary albumin excretion
VCAM-1	Vascular cell adhesion molecule-1
VEGF	Vascular endothelial growth factor
VSD	Ventricular septal defect
WBC	White blood cell

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Introduction

Diabetes mellitus (DM) is considered one of the most common metabolic complications occurring in pregnancy ***(Ben-Haroush et al., 2004).*** Both, type 1 and type 2 may be diagnosed before pregnancy and thus called pregestational diabetes. On the other hand, if diabetes is diagnosed for the first time during pregnancy, it is called gestational diabetes ***(Rosenstein et al., 2012).*** In 2012, Schneider and his co-workers stated that gestational diabetes mellitus (GDM) accounts for about 90% of cases of DM in pregnancy worldwide. They added that pre-existing diabetes accounts for 10 % of such cases. ***Kim et al. (2012)*** added that first degree relatives with diabetes, increased weight and decreased physical activity were well established risk factors for developing GDM.

Diabetes during pregnancy carries the risk for further complications to both, the mother and the fetus ***(Kim et al., 2002).*** Maternal complications include pre-eclampsia, hyperglycemic crisis and recurrent urinary tract infection that may progress to pyelonephritis ***(Ben-Haroush et al., 2004).*** In addition, women with GDM are more likely to develop type 2 DM later in life and have 30-69% higher risk to develop GDM again in future pregnancies