Ain Shams University

Institute of postgraduate childhood studies

Medical studies Department

Growth Pattern and Body Composition in Pre-adolescents Egyptian Children with Type 1 Diabetes Mellitus

Thesis

Submitted for fulfillment of Ph. D. degree in medical childhood studies

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ABBREVIATIONS

ACE	Angiotensin Converting Enzyme	IFG	Impaired Fasting Glycaemia
ADA	American diabetes Assossiation	IGF-I	Insulin-like growth factor - I
APCs	antigen presenting cells	IGT	Impaired glucose Tolerance
BIA	Bioelectrical impedance analysis	IL	Interleukin
BMC	Bone mineral content	IZS	insulin zinc suspension
BMD	Bone mineral density	Kg	Kilogram
BMI	Body mass index	LDL	low density lipoprotein
CBV-٤	Coxsackie virus	MAC	Mid Upper arm circumference
CDK ٤	Cyclin- Dependent Kinase ٤	MODY	Maturity onset diabetes in the young
CGMS	Continuous glucose monitoring system	NIDDM	Non insulin dependent diabetes mellitus
CNS	Central Nervous System	NPH	neutral protamine Hagedorn insulin
CSII	Continuous Subcutaneous Insulin Infusion	NSGP	National Glycohemoglobin Standardization Program
DCCT	Diabetes Control and Complications Trial	OGTT	Oral Glucose Tolerance Test
DKA	Diabetic ketoacidosis	PCR	Polymerase Chain Reaction
DM	Diabetes Mellitus	PDR	proliferative diabetic retinopathy
DXA	Dual Energy X-Ray Absorptiometry	Pdx-١	pancreas/duodenum homeobox-١
EV	Enterovirus	PEDF	Pigment Epithelium derived Factor
FBG	Fasting blood glucose	PEM	Protein energy malmutrition
FFM	Fat free mass	SD	Standard deviation
FPG	Fasting Plasma Glucose	SDS	Standard deviation score
g	gram	SMBG	Self-monitoring of blood glucose
GAD٦٥	Glutamic acid decarboxylase	SRIF	somatotropin release-inhibiting factor
GDM	Gestational Diabetes Mellitus	T١DM	Type ١ Diabetes Mellitus
GFR	glomerular filtration rate	T٣	triiodothyronine
GH	Growth hormone	T٤	tetraiodothyronine)
HBA١c	Glycated haemoglobin A١c	TBF	Total body fat
HDL	High Density Lipoproteins	TBW	Total body water
Ht	Height	UWW	Under Water Weighing
IAA	Insulin auto antibodies	WHO	World health organization
ICA	Islet Cell Antibodies	wk	Week
IDW	ideal body weight	Wt	Weight

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SD	Standard deviation		
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SMBG	Self-monitoring of blood glucose		
SRIF	somatotropin release-inhibiting factor		
T١DM	Type ١ Diabetes Mellitus		
T٣	triiodothyronine		
T٤	tetraiodothyronine)		
TBF	Total body fat		
TBW	Total body water		
UWW	Under Water Weighing		
WHO	World health organization		
wk	Week		
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Wt	Weight	Kg	Kilogram

AC	Abdominal circumference	IGFBP	Insulin-like growth factor binding protein
ACTH	Adrenocorticotropic Hormone	IGF-I	Insulin-like growth factor - I
AFI	Amniotic fluid index	IGF-II	Insulin-like growth factor - II
AGA	Appropriate for gestational age	IGFIR	Insulin like growth factor receptor
ALS	Acid labile subunit	IR	Insulin receptor
BMI	Body mass index	IUGR	Intrauterine growth restriction
BPP	Biophysical profile	IVH	Intraventricular hemorrhage
CAD	Coronary artery disease	kDa	Kilo-Dalton
CC	Chest circumference		
CNS	Central nervous system	LBW	Low birth weight
CS	Cesarean Section	LGA	Large for gestational age
DM	Diabetes Mellitus	MUC	Midupper arm circuference
EFW	Estimated fetal weight	NEC	Necrotizing enterocolitis
ELISA	Enzyme linked immunosorbant assay	OFC	Occipitofrontal circumference
FEV١	Forced expiratory volume in ١ second	PGH	Placental growth hormone
FH	Fundal height	PI	Ponderal index
GA	Gestational age	RDS	Respiratory distress syndrome
GH	Growth hormone	SD	Standard deviation
GLUT	Glucose Transporter Protein	SGA	Small for gestational age
gm	Gram	SIDS	Sudden infant death syndrome.
HBA١c	Glycated haemoglobin A١c	T٤	Thyroxine
HC	Head circumference	UA	umbilical artery
hGH-N	Human Pituitary Growth Hormone	Wk	Week

HT	Height	WT	Weight