List of Contents

List of Contents

List of Abbreviations

aBMD	:	areal bone mineral density
AI	:	Adequate intake
ALP	:	Alkaline phosphatase
ATP	:	Adenosine triphosphate
AR	:	Androgen receptor
BMC	:	Bone mineral content
BMD	:	Bone mineral density
BMPs	:	Bone morphogenetic proteins
BMU	:	Basic multicellular unit
CaBP	:	Cytosolic calcium binding protein
CaR	:	Calcium receptor
CT	:	Calcitonin
DEXA	:	Dual energy X-ray absorptiometrey
DXR	:	Digital X-ray Radiogrmmetry
ECM	:	Extra cellular matrix
ER	:	Estrogen receptor
FFM	:	Fat free mass
FGR	:	Fibroblast growth factor
GCs	:	Glucocorticoids
GH	:	Growth hormone
GIO	:	Glucocorticoid induce osteoporosis
IGF	:	Insulin growth factor
IL	:	Interleukin
ISCD	:	International Society for Clinical Densitometry
JIA	:	Juvenile idiopathic arthritis
LBM	:	Lean body mass

LRP5	:	Low-density lipoprotein receptor related protein 5
M-CSF	:	Monocyte colony stimulating factor
MRI	:	Magnetic resonance image
OC	:	Osteocalcin
OCPs	:	Osteoblast precursors
OI	:	Osteogenesis imperfecta
OP	:	Osteoprosis.
OPG	:	Osteoprotegrin
PBM	:	Peak bone mass
PGE2	:	Prostaglandin E2
PTH	:	Parathyroid hormone
PTHR	:	Parathyroid hormone receptor
PTHrP	:	Parathyroid hormone related peptide
QCT	:	Quantitative computed tomography
QUS	:	Quantitative ultrasound
RANK	:	Receptor activator nuclear factor Kappa
RANK-L	:	Receptor activator nuclear factor Kappa ligand
RER	:	Rough endoplasmic reticulum
RGD	:	Arginine-Glycine- Aspartic
ROI	:	Region of interset
Runx2	:	Runt related protein 2
SD	:	Standard deviation
SDS	:	Standard deviation score
SHBG	:	Sex hormone binding globulin
SIBLING	:	Small integrin binding ligand N-glycolsylated protein
TFM	:	Total fat mass

TGF-B	:	Transforming growth factor -B
TNF	:	Tumor necrosis factor
UVB	:	Ultraviolet rays B
vBMD	:	Volumetric bone mineral density
VDR	:	Vitamin D receptor
VEGF	:	Vascular endothelial growth factor
WBPA	:	Weight bearing physical activity
WHO	:	World Health Organization

List of Figures

List of Figures (Cont.)

List of Tables

List of Tables (Cont.)

Introduction

Aim of the Work

Review of Literature

Chapter (1)

Normal Bone Anatomy and Physiology

Chapter (2)

Bone Minerals

Chapter (3)

Osteoporosis

Chapter (4)

Dual Energy X-Ray Absorptiometry (DEXA)