



**The Prognostic Impact of Serum Level of
Soluble Cluster of Differentiation (sCD155)
in Newly Diagnosed Low Grade Non Hodgkin
Lymphoma Patients**

Thesis

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Degree in Internal Medicine*

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا أنك لا تعلم لنا
إلا ما علمتنا أنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

Abb.	Full term
AIDS	Acquired immune deficiency syndrome
Akt	Activated phosphatidylinositol 3-kinase threonine protein
ALCL	Anaplastic large cell lymphoma
AML	Acute myeloid leukemia
ASCT	Autologous stem cell transplantation
AST	Aspartate transaminase
ATM	Ataxia telangiectasia mutated
AUC	Area under curve
BCR	The B-cell receptor
BM	Bone marrow
BTK	Bruton's tyrosine kinase
CAMs	Cell adhesion molecules
CBC	Complete blood count
CD112	Cluster of differentiation 112
CD155	Cluster of differentiation 155
CD20	Cluster of differentiation 20
CD226	Cluster of differentiation 226
CDK4	Cyclin-dependent kinase 4
CDKN2A	Cyclin-dependent kinase inhibitor 2A
CHEK2	Checkpoint kinase 2
CHOP	Cyclophosphamide, doxorubicin hydrochloride (hydroxydaunorubicin), vincristine sulfate (Oncovin), and prednisone
CLL	Chronic lymphocytic leukemia
CLPDs	Chronic lymphoproliferative disorders
CR	Complete remission
CT	Computed tomography
CTCL	Cutaneous T-Cell Lymphoma
CTLA4	Cytotoxic T-lymphocyte-associated protein 4

List of Abbreviations Cont...

Abb.	Full term
CVP	Cyclophosphamide, vincristine, and prednisolone
CXCR4	Chemokine receptors4
CXCR5	Chemokine receptors5
DCT	Direct Coombs Test
DDR	DNA damage response
DLBCL	Diffuse large B cell lymphoma
DNA	Deoxyribonucleic acid
DNAM-1	DNAX accessory molecule-1
EBV	Epstein-Barr virus
ECG	Echocardiography
ECM	Extracellular matrix
ESR	Erythrocyte sedimentation rate
FC	Fludarabine/Cladarabine
FCI	Flow cytometric immuno-phenotyping
FCM	Fludarabine/Cladarabine ± Mitoxantrone based
FDC	Follicular dendritic cells
FGF	Fibroblast growth factor
FISH	Fluorescence in situ hybridisation
FL	Follicular lymphoma
FNAC	Fine-needle aspiration cytology
GDP	Gemcitabine based
GFR	Growth factor receptors
GVL	Graft versus lymphoma
HBcAg	Hepatitis B core antigen
HHV8	Human herpes virus 8
HIV	Human immunodeficiency virus
HL	Hodgkin lymphoma
Hp	Helicobacter pylori

List of Abbreviations Cont...

Abb.	Full term
HRP	Horseradish peroxidase
HS	Highly significant
HTLV-1.....	Human retrovirus T-cell leukemia virus type 1
IBM SPSS.....	Statistical Package for Social Science
IgG	Immunoglobulin G
IGH.....	Immunoglobulin heavy chain
IgH.....	Immunoglobulin heavy chain
IgM	Immunoglobulin M
IHC	Immunohistochemistry
IL-6	Interleukin 6
IPI.....	International Prognostic Index
IQR	Inter-quartile range
IRAK1.....	Interleukin-1receptor-associated kinase 1
ITIM	Immunoreceptor tyrosine-based inhibition motif
ITT	IMmunoglobulin tail tyrosine
IV	Intravenous
LDH.....	Lactate dehydrogenase
LN.....	Lymph node
LPL.....	Lymphoplasmacytic lymphoma
MALT	Mucosa-associated lymphoid tissue
MF	Mycosis fungoides
MGUS.....	Monoclonal gammopathy of undetermined significance
ml.....	Millilitre
MM	Multiple myeloma
MMAE	Monomethyl auristatin E
MRI.....	Magnetic resonance imaging
MUGA	Multigated acquisition

List of Abbreviations Cont...

Abb.	Full term
MZLs.....	Marginal zone lymphomas
NCB.....	Needle Core Biopsy
NCRs	Natural Cytotoxicity Receptors
Nec3.....	Nectin-3
Nec1-5.....	Nectin-like protein 5
NF-kB.....	Nuclear Factor kappa-light-chain
NHL.....	Non-Hodgkin's Lymphoma
NK	Natural killer
NKG2D.....	Natural Killer group 2D
NMZL	Nodal marginal zone lymphoma
NOTCH1.....	Notch homolog 1, translocation-associated
NPV.....	Negative predictive value
NS.....	Non significant
ODE.....	Ordinary differential equations
ORR	Objective response rates
OS	Overall survival
PCR.....	Polymerase chain reaction
PCs.....	Presenting cells
PD-1.....	Programmed death 1
PDGF.....	Platelet-derived growth factor
PD-L1	Programmed death-ligand 1
PET-CT.....	Positron emission tomography-computed tomography
PFS	Progression-free survival
PI3K.....	Phosphatidylinositol-3 kinases
PIP3.....	Trisphosphate
PPV.....	Positive predictive value
PUVA.....	Psoralen and ultraviolet A
PVR.....	Poliovirus receptor

List of Abbreviations Cont...

Abb.	Full term
R.....	Ritxumab
RAP1.....	Ras-related protein 1
Ras	Rat sarcoma
RB1	Retinoblastoma protein
rCD226	Recombinant CD226
R-DHAP.....	Ritxumab-, Dexamethasone, Cytarabine, and Cisplatin
ROC	Receiver operating characteristic curve
ROS.....	Reactive oxygen species
RT	Reverse transcription
RT	Richter's transformation
S	Significant
SF3B1.....	Splicing factor 3B subunit 1
SLE	Systemic lupus erythematosus
SLL	Small Lymphocytic Lymphoma
SMZLs	Splenic MZLs
SOPs	Standard operating procedures
TAGE4.....	Tumor-Associated Glycoprotein E4
TCR.....	T cell receptor
TFH	T Follicular helper T cells
Th1.....	T-helper cells 1
Th2.....	T-helper cells2
TIGIT.....	T cell immunoreceptor with Ig and ITIM domains
TIM-3.....	T cell immunoglobulin and mucin domain 3
TLR4.....	Toll like receptor 4
TMB I	Tetramethylbenzidine
TME.....	Tumor microenvironment
TNF	Tumor necrosis factor