Assessment of CMV Infection Positivity on the Prognosis of Idiopathic Thrombocytopenic Pupura

Thesis
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List of Abbreviations

Abb.	Meaning
ACA	Anticardiolipin antibody
ADHD	Attention deficit-hyperactivity disorder
AHA	Auto immune hemolytic anemia
AIDS	Acquired immunodeficiency SYNDROM
ALPAs	Antiphospholipid antibodies
ALPS	Autoimmune lymphoproliferative syndrome
ALT	Alanine aminotransferase
ANA	Antinuclear antibodies
ANCA	Anti-neutrophil cytoplasmic antibodie
APS	Antiphospholipid syndrome
BAFF	Tumor necrosis factor ligand
BMT	Bone marrow transplantation
BSER	Brain stem-evoked response
CMV	Cytomegalovirus
CMVR	Cytomegalovirus retinitis
CR	Complete response
CVID	Common variable immune deficiency
DNA	Deoxyribonucleic acid
DPT	Diphtheria, Pertussis (whooping cough) and Tetanus
E	Early
EBV	Epstein–Barr virus
ES	Evans syndrome
ESR	Erythrocyte sedimentation rate
G6PD	Glucose-6-phosphate dehydrogenase deficiency
gB	Glycoprotein B
GIT	Gastrointestinal tract

Abb.	Meaning
GVHD	Graft-versus-host disease
HAART	Highly active antiretroviral therapy
Hb	Hemoglobin
HBV	Hepatitis B virus
HCMV	Human cytomegalovirus
HCV	Hepatitis C virus
HDMP	High dose methyl prednisolone
HIV	Human immunodeficiency virus
HL	Hodgkin LYMPHOMA
HP	Helicobacter pylori
HTN	Hypertension
IE	Immediate early
IFN-g	Interferon-gamma
IgG	Immunoglobulin G
IgM	Immunoglobulin M
IL	Interleukin
ITP	Immune thrombocytopenic purpura
IVIG	Intravenous immunoglobulin
IWG	International Working Group
L	Late
LAC	Lupus anticoagulant
LDH	Lactate dehydrogenase
M/E ratio	Myeloid to erythroid ratio
MCV	Mean corpuscular volume
MHC	Major histocompatibility complex
MMR	Measles-mumps-rubella
MPV	Mean platelet volume
mRNA	Messenger Ribonucleic acids
N	Number
NR	No response
OPV	Oral polio vaccine

Abb.	Meaning
PCR	Polymerase chain reaction
PTDM	Post-transplant diabetes mellitus
R	Response
RBCs	Red blood cells
SCID	Severe combined immunodeficiency syndrome
SCT	Stem cell transplantation
SLE	Systemic lupus erythematosus
TAR	Thrombocytopenia-absent radius
TORCH	toxoplasmosis, rubella, cytomegalovirus, herpes simplex, and HIV
TPO	Thrombopoietin
VZV	Varicella zoster virus
WBC	White blood cell

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Abstract

Human cytomegalovirus (CMV) modulates host immunity, and CMV-infected patients often develop signs of immune dysfunction; Several reports have implicated cytomegalovirus (CMV) in the pathogenesis of ITP. Our Study aimed to evaluate CMV positivity prevalence among pediatric patients with acute and chronic ITP.

And it's impact on severity of bleeding, response to treatment and development of chronic disease.

Methods: A cross-sectional study was conducted including ٤٠ Patients with ITP diagnosed and/or following at Ain-Shams university pediatrics hospital hematology unit in the period between August ٢٠١١ and April ٢٠١٢. All patients were subjected to history taking emphasizing on age, sex, clinical presentation suggestive of viral infection e.g.pneumonitis, hepatitis, petechial rashes, mononucleosis-like syndrome (characterized by fatigue, malaise, myalgia, headache, fever, hepatosplenomegaly, elevated liver enzymes, and atypical lymphocytosis), any persistent fever, morbilliform rash. Patients were then subjected to physical examination for bleeding signs and type of bleeding (including retinal hemorrhages), Severity of bleeding was calculated using bleeding score **(Edslev et al. ٢٠٠٧)**, any organomegaly and presence of dysmorphic features. Data about treatment received and outcome including lines of treatment, initial response (after ١st line or more than one line needed) were included in the study. CMV-PCR was done for all patients.

Results: Our study results showed that CMV prevalence in patients with ITP was ٧٢٪ (٢٩/٤٠), (١٢ patient acute ITP and ١٧ patient chronic ITP). Patients with CMV-PCR positive had a median age of diagnosis ٤٢ months compared to ٥٤ months in CMV- PCR negative patients with no significant difference (p>٠ر٠٥). ٧٢ر٧٪ of patients with CMV- PCR negative had a chronic ITP compared to ٤١ر٤٪ in CMV -PCR positive patients (p=٠ر٠٧٧), and no gender difference. No difference in the initial clinical presentation or bleeding scores according to CMV-PCR status. Two patients with CMV-PCR positive had an intracranial bleeding however, no significant difference were encountered in other bleeding