NEW MODALITIES IN THE MANAGEMENT OF IDIOPATHIC (AUTOIMMUNE) THROMBOCYTOPENIC PURPURA

Essay

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LIST OF ABBREVIATIONS

- ADCC : Antibody Dependent Cell-mediated Cytotoxicity.
- ADP : Adenosine Di Phosphate.
- AG : Alpha Granules.
- AIDS : Acquired Immunodeficiency Syndrome.
- APC : Antigen Presenting Cell.
- aPTT : Activated Partial Thromboplastin Time.
- ASA : Acetyl Salicylic Acid.
- ATP : Adenosine Tri Phosphate.
- AZT : Ziduvudine.
- BCSHTF : British Committee for Standards in Hematology Task Force.
- BT : Bleeding Time.
- CBC : Complete Blood Count.
- CCR : Continuous Complete Response.
- CD : Cluster of Differentiation.
- CLL : Chronic Lymphocytic Leukemia.
- CMV : Cytomegalovirus.
- COX : Cyclo-oxygenase.
- CR : Complete Response.
- CS : Canalicular System.
- CTLA-4 : Cytotoxic T-Lymphocyte Associated Antigen 4
- CTLs : Cytotoxic T-Lymphocytes.
- DAG : Di-Acyl-Glycerol.
- DDAVP : Desmopressin.
- DG : Dense Granules.
- DIC : Dissiminated Intravascular Coagulopathy.
- DNA : Deoxy Ribonucleic Acid.
- EDRF : Endothelial Derived Relaxation Factor.
- ELISA : Enzyme Linked Immuno-Sorbant Assay.
- FcRs : Fc Receptors.
- FFP : Fresh Frozen Plasma.
- G-CSF : Granulocyte Colony Stimulating Factor.
- GDP : Guanosine Di Phospate.
- GIT : Gastro-intestinal Tract.
- GP : Glycoprotein.
- GTP : Guanosine Tri Phosphate.

- HIT : Heparin Induced Thrombocytopenia.
- HLA : Human Leukocytic Antigen.
- H. Pylori : Helicobacter Pylori.
- HTLV-1 : Human T-cell Lymphocytic Virus – 1.
- HUS : Haemolytic Uraemic Syndrome.
- IC : Immune Complex.
- IFN : Interferon.
- IgG : Immunoglobulin G.
- IL : Interleukin.
- INR : International Normalized Ration.
- ITP : Idiopathic Thrombocytopenic Purpura.
- IVIg : Intravenous Immunoglobulin.
- IP : Inositol Phosphate.
- KIR : Killer cell Immunoglobulin-like Receptor.
- LDH : Lactic Dehydrogenase.
- mAb : Monoclonal Antibody.
- MDS : Myelo-Dysplastic Syndrome.
- MGUS : Monoclonal Gammopathy of Uncertain Significance.
- MHC : Major Histocompatibility Complex.
- MMF : Mycophenolate Mofetil.
- mRNA : Messenger Ribonucleic Acid.
- MT : Microtubules.
- NHL : Non Hodgkins Lymphoma.
- NKC : Natural Killer Cell.
- NO : Nitric Oxide.
- NR : No Response.
- NSAIDs : Non Steroidal Anti-Inflammatory Drugs.
- PAI : Plasminogen Activator Inhibitor.
- PEG : Pegylated.
- PECAM : Platelet Endothelial Cell Adhesion Molecule
- PFA : Platelet Function Assay.
- PF4 : Platelet Factor 4.
- PG : Prostaglandin.
- PIP : Precursor Inositol Phospholipid.
- PKC : Protein Kinase C.
- PLA^{1a} : Platelet Leukocytic Antigen 1a.

- PO : Orally.
- PR : Partial Remission.
- PT : Prothrombin Time.
- RBCs : Red Blood Corpuscles.
- RIPA : Ristocetin Induced Platelet Activation.
- RNA : Ribonucleic Acid.
- SHIP-SHP-1 : Protein Tyrosine Phosphatase
- SLE : Systemic Lupus Erythematosus.
- TAR : Thrombocytopenia with Absent Radii.
- TcRs : T-cell Receptors.
- TGF : Tumor Growth Factor.
- Th. : T- helper.
- TM : Thrombomodulin.
- tPA : tissue Plasminogen Activator.
- TPO : Thrombopoietin.
- TRAP : Thrombin Receptor Activating Peptide.
- T reg : T regulatory cell.
- TT : Thrombin Time.
- TTP : Thrombotic Thrombocytopenic Purpura.
- TXA : Thromboxane.
- ULvWF : Ultra Large Von Willebrand Factor.
- vWF : Von Willebrand Factor.
- vWD : Von Willebrand Disease.
- WHO : World Health Organization.

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INTRODUCTION

Idiopathic thrombocytopenic purpura (ITP) is an acquired immune mediated disorder characterized by isolated thrombocytopenia, defined as a peripheral blood platelet count less than $100x10^9$/L, and the absence of any obvious initiating and/or underlying cause of the thrombocytopenia. **(Rodeghiero et al., 2009).**

Until recently, the abbreviation ITP stood for idiopathic thrombocytopenic purpura, but current awareness relating to the immune-mediated nature of the disease, and the absence or minimal signs of bleeding in a large proportion of cases have led to a revision of the terminology. **(Rodeghiero et al., 2009).**

Concepts surrounding the mechanisms of thrombocytopenia in ITP have shifted from the traditional view of increased platelet destruction mediated by autoantibodies to more complex mechanisms in which both impaired platelet production and T-cell mediated effects play a role. **(Zhang et al., 2006).**

Recent epidemiologic data suggest that the incidence in adults is approximately equal for the sexes except in the mid-adult years (30-60 years), when the disease is more prevalent in women. **(Segal & Powe, 2006).**

ITP is classified by duration into newly diagnosed, persistent (3-12 months' duration), and chronic (more than 12 months' duration). **(Rodeghiero et al., 2009).**

Whereas ITP in adults typically has an insidious onset with no preceding viral or other illness and it normally follows a chronic course, ITP in children is usually short-lived with at least two-thirds recovering spontaneously within 6 months. **(Kuhne et al., 2001).**

Signs and symptoms vary widely. Many patients have either no symptoms or minimal bruising, whereas others experience serious bleeding, which may include gastrointestinal hemorrhage, extensive skin and mucosal hemorrhage, or intracranial hemorrhage. The severity of thrombocytopenia correlates to some extent but not completely with the bleeding risk. Additional factors (e.g. age, lifestyle factors, uremia) affect the risk and should be evaluated before the appropriate management is determined. **(Stasi et al., 2008).**

Although randomized controlled trials' data are now available for some new ITP treatments (eg, romiplostim, eltrombopag), only a limited number of randomized controlled trials have been conducted in adults using traditional therapies and even fewer for other agents. Whereas this work gives a widespread approach to treatment, a general rule is that treatment should always be tailored to the individual patient. **(Provan et al., 2010).**

AIM OF WORK

To review the newest modalities in the management of idioipathic (autoimmune) thrombocytopenic purpura, as a part of a large scope of clinical syndromes referred to as thrombocytopenias.