REPORT ON Guest Lecture Series by Dr. Sakthivel Vaiyapuri

Organized by

Institutional Research Board, Department of Pharmacology, and Medical Education Unit

Trichy SRM Medical College Hospital and Research Centre, Tiruchirapalli

23.07.2018

Guest Lecture Series 1: Platelets at the interface between thrombosis and haemostasis

Report on Guest Lecture on "Platelets at the interface between thrombosis and haemostasis"

Background

Thrombosis, inflammation and cancer are interrelated; whereas the circulating blood platelets are one of the commonest cellular elements to process each other. Although the relevances of platelets in the pathophysiology of thrombosis are well established, their contributions to inflammatory pathways that lead to cancer are less defined and appear to be complex and multifaceted. Indeed, the paradigms of hemostasis and thrombosis, where a temporal sequence of events starts with an unactivated platelet recognizing a surface or being stimulated by an agonist and leads to an activated platelet, have dynamic implications for platelet phenotype including structural morphology, cellular makeup and its temporal functions. Similar changes are likely to have dramatic consequences for the platelet's influence on both inflammation and cancer, and this highlights the likely complexity of platelet involvement in each disease process.

Though the primarily recognization of the cells have its own roles in hemostasis and thrombosis, the platelet has been increasingly recognized as a multipurpose cell. Indeed, circulating platelets have the ability to influence a wide range of seemingly unrelated pathological and physiological modifications and alterations. Recent researches highlighted the notable observations that link platelets to inflammation, reinforcing the platelet's origin from a lower vertebrate cell type with both hemostatic and immunologic roles. The relevance of platelets in cancer biology by focusing on the hallmarks of cancer and the ways platelets can influence multistep development of tumors. Apart from that, the involvement of patelets in the interplay between hemostasis, thrombosis, inflammation and cancer is likely complex, and not much extremely explored. The existence of animal models of platelet dysfunction and currently used antiplatelet therapies provide a framework for understanding mechanistic insights into a wide range of pathophysiologic complications in the patients.

In order to create awareness among complexity of the issue and to understand the inter-country research works on platelets, the Institutional Research Board and Department of Pharmacology, Trichy SRM Medical College Hospital and Research Centre, Tiruchirapalli took initiative to address.

VENUE & TIME

The programme was held at Dr. B.C. Roy Hall, Second Floor, Hospital Block, from 1.30 to 3.30pm on 23.07.2018.

From Left to Right: Dr. S. Revwathy, Medical Superintendent; Dr. Sakthivel Vaiyapuri, Guest Speaker; Dr. S. Vinayagam, Director (Health Sciences); Dr. A. Jesudoss, Dean; Dr. K. Vasanthira, Prof. and Head of Pharmacology and Dr. P. Anusuya, Deputy Director-IQAC

Dr. K. Vasanthira Prof. & Head, Pharmacology welcomed the gathering

Dr. S. Revwathy, Med. Suptd. Felicitated

Dr. P. Anusuya, DD (IQAC) Felicitated

Dr. A. Jesudoss, Dean delivered Presidential Address

Dr. S. Vinayagam, Director (HS) delivered Inaugural Address

Honoring the Guest

Gallery of Dignitaries and Audience

INAUGURAL FUNCTION

Dr. K. Vasanthira, Professor and Head of Pharmacology welcomed the gathering. She also introduced the speaker, Dr. Sakthivel Vaiyapuri, Associate Professor, Institute of Cardiovascular and Metabolic Research, University of Reeding, UK.

The Director - Health Sciences, Dr. S. Vinayagam, inaugurated, Dr. A. Jesudoss, Dean presided, Dr. S. Revwathy, Medical Superintendent and Dr. P. Anusuya, Deputy Director-IQAC felicitated the programme.

STATUS OF PARTICIPANTS

A total of 220 participants included clinical, pre, para clinical teaching faculty, postgraduates and nursing staff participated.

TECHNICAL DELIBERATIONS

The deliberations by Dr. Sakthivel Vaiyapuri was highly interested and thought provoking. He initiated his presentation with the basic platelet formation and function. He described that platelets and leukocytes share a common ancestral cell, the thrombocyte, facilitating both hemostatic and immune roles in lower vertebrates, such as fish and birds. Therefore, it comes as no surprise that platelets so frequently pervade immunologic functions. Although not strictly appointed within the inflammatory pathway, the platelet can be viewed as an extension of the cellular immune system. Recent evidence places the platelet in the middle of diverse inflammatory processes that influence normal leukocyte biology and inflammatory signals.

Dr. Sakthivel defined the emerging evidence of platelets in the development of cardiovascular disease. Chronic inflammation is a primary factor in events leading to atherosclerosis. It has been documented that platelets adhere to von Willebrand factor (VWF) bound to endothelial cells, and this interaction elicits tethering and rolling of leukocytes on the endothelial surface. Thus, platelets not only bring leukocytes to a site where inflammation potentially leads to atherosclerosis but also contain stores of proinflammatory mediators, such as thromboxanes and CD40 ligand. Proteins of the complement system have a reciprocal relationship with platelets: platelets activate the complement system, and proteins of the complement system activate platelets. In experimental models, hyperlipidemia induces platelet recruitment to the endothelial layer, and crucial molecular players are VWF, glycoprotein Ib-IX, and P-selectin, although the role of glycoprotein Ib-IX is not without some controversy

The technical session was followed by an open discussion in which the speakers thereby the doubts raised by the participants were clarified.

Honoring Dr. Sakthivel Vaiyapuri

Vote of Thanks

Dr. K. Kanagasanthosh, Assistant Professor of Pharmacology and Organizing Secretary of this programme proposed a vote of thanks.

The programme ended with National Anthem at 3.45pm.