## EDITORIAL

# A joint venture of basic and clinical scientists to unravel the hidden secrets of inflammation biology

## Girdhari Lal

Department Scientist 'E', National Centre for Cell Science, Ganeshkhind, Pune, MH-411007, India

## Foreword

Inflammation is considered to have both beneficial and detrimental role in our body. The contribution of inflammation from the sterile immune response to alloimmunity, autoimmunity, and immunity to infections are well documented. Understanding the inflammatory response and the state of inflammation under physiological and pathological conditions provides an opportunity to discover the several unknown facts of various diseases. Physicians and scientists have provided a plethora of signatures to classify the inflammation from macroscopic levels to the cells to a single molecule. History of inflammation research has taught us various cellular and molecular mechanisms to explain the clinical signs and consequences.

The first comprehensive description of inflammatory symptoms, written in De Medicina by Aulus Celsus (died AD 38) who was an encyclopedist, has mentioned the four of five main symptoms of inflammation: rubor (redness), tumor (swelling), color (heat), and dolor (pain).<sup>1</sup> Later, Galen of Pergamum (born AD 129), a physician and surgeon to Roman Emperor, introduced function laesa (impaired function) as the fifth sign of inflammation. He also introduced the concept of four vital humors: sanguis (blood), pituita (phlegm), chole (yellow bile), and melaine chole (black bile).<sup>1</sup> During this period, inflammation was considered as a malfunction of these four humors in the body. The discovery of compound microscope in the year 1590 opened the concept and association of blood vessels and tissues with the inflammation. Subsequent to the first-time visualization of individual red blood cells by Antoni van Leeuwenhoek (1719), a lot more complex and sophisticated tools have been developed and used to explore the biology of inflammation. However, we still do not have clear understanding of cellular and molecular interactions and cross-talks involved from sterile immunity to pathogenic immune response. There is a need for a platform for both physicians and scientists to come together and unravel the secret of inflammation. Managing the acute and chronic inflammation and its consequences related to autoimmunity, initiation and development of cancer, allograft rejections, the cellular and molecular mechanisms involved, and bringing back these responses to homeostatic levels are major challenges in the field. Researchers are currently exploring the fine balance of inflammation and tolerance at the mucosal surface, the molecules/cells involved, and their choreography and potential therapeutic benefit.

Reporting newer molecules, cells and their interactions with tissues and organs, from the level of a single molecule study to systems biology approach, is an evolving concept. Discussion on newer findings, and thesis and anti-thesis of the hypothesis have helped us to understand the subject deeply and to manage the patients effectively by providing better diagnostics/treatments. This is an evolving process and needs to be rolling with the positive energy for the betterment of science and society.

It was a good initiative by Dr. Chandrashekara. S, Director, ChanRe Rheumatology and Immunology Center and Research, Bengaluru to organize a meeting of physicians and scientists working in the field of Inflammation research across India. The brain-storming meeting in the year 2015 had put forth the proposal to form a society for inflammation research.<sup>2</sup> The Society of Inflammation Research (SIR) was registered (DRB-4/SOR/134/2017-18) and came to existence (www.indiainflammation.org). The society members felt the need for a communication platform to discuss the novel concepts/ideas, and share their results and findings to rest of the world and envisioned to have a society journal. The Indian Journal of Inflammation Research (IJIR), an online and open access journal, was proposed. It is my pleasure to serve as Editor-in-Chief for the newly launched Indian Journal of Inflammation Research. This is an open invitation and appeal to the physicians, scientists, academicians, and students working in the field of inflammation research to contribute and share their knowledge with others in the field and the general public across the globe. The scope of the journal will be to cover a broad spectrum of inflammation research, present treatment including cellular therapy, diagnosis, case studies, reports of clinical trials, reviews, perspectives, timely communication of what's new and what's hot in the inflammation research across the world, and newer tools and techniques. The free of charge and open access policies of the journal, along with the mass communication technology, will have a strong impact on sharing the knowledge across the globe. With the very well experienced physicians, surgeons and scientists, the journal and editorial team have planned to bring in special thematic issues dedicated to specific inflammatory diseases.

Myself and the editorial team hope that articles on diverse topics published in this journal will help the clinicians, surgeons and scientists to stay updated in the inflammation research and widen the spectrum of their knowledge. We will be looking forward to your ideas, feedback, and support to keep the trajectory of journal upward, and to keep up with readers' expectations.

### **Competing interests**

The author declares that he has no competing interests.

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\*Correspondence: Dr. Girdhari Lal glal@nccs.res.in

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