however, 100 species have been targeted to be studied by 2017 in this on-going work.

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Inflammation*

Inflammation is an immune response of the body to harmful external or internal stimuli. This process involves immune cells, blood vessels and several molecular mediators. Inflammation is supposed to sustain till the body resolves the stimulus and achieves homeostasis. It is a natural biological process which is required to heal injuries and infection. The problem arises only when the body is not able to resolve the initial inciting factor leading to persistent or chronic inflammation. If the initial response is short-lived it is known as acute response with classical signs, such as pain, heat, redness, swelling and transient loss of function. If the inflammation does not subside, it becomes chronic and leads to tissue destruction, thickening or scarring of connective tissues and cell/tissue death. Dysregulation of immune system due to chronic inflammation will eventually cause several disease-states and conditions, such as allergies, periodontitis, atherosclerosis, myopathies, autoimmune diseases, diabetes and even cancer. Due to 'bystander' damage of the tissue during inflammation, immune mechanisms are closely regulated by the body during physiology and got altered in pathophysiology. Therefore, it is important to know the factors and pathways that regulate the mechanisms of inflammation so as to evolve strategies to reduce the consequences of inflammation and their health atrocities.

As chronic inflammation is the common underlying thread that runs through many clinical conditions, research in this area requires a multi-dimensional approach encompassing various fields of medical sciences, basic sciences and clinical informatics. Considering this, a two-day scientific meet on inflammation was organized in Bengaluru recently. It brought together researchers from clinical and basic sciences working in the field of inflammation from various parts of the country. The purpose of the meet was to initiate a crosstalk on the role of inflammation in non-communicable diseases. While the meeting offered a platform for a multi-disciplinary approach to strengthening inflammation research in India, the deliberations in a nutshell are presented here.

The meet started with a talk by S. Chandrashekara (ChanRe Rheumatology and Immunology Centre and Research (CRICR), Bengaluru) on 'Dichotomy of quantifying and managing the inflammation in autoimmune disease'. He deliberated on the need 'to quantify, qualify and assess the impact' of clinical and

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inflammatory markers to regulate inflammation in autoimmune diseases. He highlighted the dilemma faced by clinicians in deciding when to stop the inflammation and thereby the damage produced by inflammation, how much to control and how to control the inflammatory process in autoimmune disease management by taking rheumatoid arthritis (RA) as a prototype disease. He urged the researchers to work on constructs of autoimmune disease models, including latest developments. M. Balasubramanyam (Madras Diabetes Research Foundation, Chennai) spoke on 'Inflammaging and meta-inflammation in type-2 diabetes'. He explained how several cellular stressors (oxidative stress, glycation, autophagy, endoplasmic reticulum stress, proteasomal degradation and telomere shortening) could crosstalk with inflammatory processes and inflammasome pathways in the pathogenesis of diabetes and its complications. Apart from cytokines, he emphasized the clinical utility of new inflammatory markers like neutrophil to lymphocyte ratio, systemic lipopolysaccharide, and circulatory microRNAs, including miR-146a in diabetes. Citing the work of augmented nucleotide oligomerization domain signalling in diabetes, he elaborated that inflammation research is now expanded with the identification of damage-associated molecular patterns which could serve as multiple ligands for several pattern recognition receptors. He also underscored the importance of developing algorithms for use of 'panel of biomarkers' both in the prevention as well as diagnosis and management of diabetes.

Illustrating the experimental work on 'Role of inflammatory cytokines in disrupting the blood-brain barrier (BBB) function during neuronal autoimmunity', Girdhari Lal (National Centre for Cell Science, Pune) reported that IFN-γ promotes the migration of inflammatory CD4 T cells, by disrupting the tight-junction molecules at BBB leading to neuronal autoimmunity. He also mentioned that such studies in mouse models help us in designing novel therapeutics to control neuronal autoimmunity. V. S. Negi (Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry) presented his work on 'Cytokine-based T cell profiling in RA'. His work found altered transcription factors and cytokines as the underlying cause of immune dysregulation in RA patients. He emphasized that better management of RA is possible if novel markers are identified for early diagnosis and to stratify disease subsets for monitoring disease activity and treatment response. Padma Shastry (National Centre for Cell Science, Pune) discussed her work on 'Oncostatin-M mediated-STAT-3 signaling regulates mesenchymal and proneural genes in gliomas – New lessons from old chapters'. Terming the microenvironment as 'fuel providers' for cancer cells, she explained the link between inflammation, cancer and microenvironment. She reported the association of Oncostatin-M receptor upregulation with mesenchymal features in glioma cells, which could serve as a target for therapeutic intervention.

Chandramani Pathak (Indian Institute of Advanced Research, Gandhinagar) spoke on 'Involvement of fas-associated death domain (FADD) in regulation of apoptosis and inflammatory signalling in cancer cells'. His talk focused on the closely related cellular processes of apoptosis and inflammation with cancer. Citing from his experimental work on FADD, he elaborated on the modulatory role of FADD in cancer prevention and therapy. Padmamalini Mahendradas (Narayana Nethralaya, Bengaluru) discussed her work on 'Correlation between assessment of flare using clinical grading and laser flare meter in uveitis'. Citing her works, she demonstrated the utility of laser flaremeter in grading the inflammatory flares in various uveitis entities in comparison to conventional clinical grading. Jyothirmay Biswas (Sankara Nethralaya, Chennai) gave a lecture on 'Immunosuppressive agents in uveitis and scleritis – my experience'. Recollecting his 28 years of experience in medical practice, he delineated the use of antimetabolites, alkylating agents and T-cell inhibitors in immunosuppressant therapy. He further shared the usefulness of different lines of treatment for different forms of uveitis and scleritis patients. He cautioned about the drug-related adverse effects, the need to follow up with investigations every two weeks and to discontinue in case of side effects in patients on therapy. Bhavana Sosale (Diacon Hospital, Bengaluru) spoke on her ongoing project on 'Vitamin D and diabetes'.

On the second day of the meet, S. Chandrashekara (CRICR, Bengaluru) spoke about the on-going research projects at his Centre and facilitated detailed discussion as outcomes of the meeting deliberations. Apart from the speakers, several eminent persons from related fields participated as observers.

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