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The field of computer vision has been revolutionized by convolutional neural network (CNN). CNN employs the deep learning architecture and finds use in image recognition and pixel processing. The first article of this issue by Sharma and Garg goes beyond this conventional usage and presents diverse applications of CNN in the pharmaceutical industry. These range from optimization of drug design in terms of activity and specificity, screening of chemical libraries, monitoring drug-target interaction, etc. The authors present the basic premise of CNN and explain the concept of hierarchy in image recognition and processing. In drug design and discovery, CNN considers the spatial arrangement of the drug molecule or its target as the input and predicts information about novel high affinity binders as the output. Following training, the CNN model can be used to predict the behaviour of databases with components similar to the training dataset. Several such models have been described by the authors. The use of CNN in predicting pharmacokinetic and pharmacodynamic aspects of drugs using molecular images and in designing personalized therapy regimens has been presented. Diagnosis of diseases such as diabetic retinopathy, lymph node metastasis, tuberculosis and others using data obtained from imaging techniques by CNN is also possible. A few such examples have been presented. In addition, the application of CNN in predicting drug-drug interaction, drug safety and adverse reactions, pharmaceutical manufacturing and formulation design have also been highlighted.

The second article by Bharti, Chabra, Kondal, Ghai and Bansal is a meta-analysis of the efficacy of pharmacological and non-pharmacological agents for treatment of fibromyalgia, a chronic and multifocal pain condition whose etiology remains unclear. A combination of genetic and non-genetic factors seems to be important in the change in pain awareness. Interventions used at present mitigate the symptoms of the disease at best. However, the effectiveness of pharmacological and non-pharmacological interventions in fibromyalgia remains ambiguous. The authors carried out a comprehensive search of e-databases and analyzed randomized clinical trials (RCTs) in three categories of intervention and control. The studies were spread across several countries, with two of the being multi-centric. Both pharmacological and non-pharmacological interventions demonstrated no significant difference compared to treatment as usual. However, multi-component therapy showed significant improvement. The authors analyzed health status and depression in patients as secondary outcomes. The purpose of this meta-analysis was to provide support for informed decision-making by the clinician based on updated synopsis of available published data. The authors conclude that efficacy of non-pharmacological interventions and multi-component therapy can only be arrived at subject to availability of further high-quality data.

The third article in this issue by Dasgupta, Bajpayee, Pophali, Kadu, Jain and Misra discusses the efficacy of peptide therapeutics in search of a treatment strategy against Alzheimer's disease. Aggregation of A-beta42 and hyperphosphorylation of tau protein have been associated with disease progression. The authors discuss the challenges associated with conventional drug design protocols for inhibiting aggregation of Abeta and present peptides as an alternate approach to be explored in this area. As peptides composed of natural amino acids are substrates for endogenous proteases, synthetic foldamers based on unnatural amino acids have been highlighted. Such options include scaffolds based on beta- and gamma-amino acids and aromatic oligoamides. The authors conclude that structures based on such foldamers hold promise in designing therapeutic candidates in Alzheimer's disease and other untreatable conditions.

On behalf of the editorial team, I invite you all to read this edition and provide your valuable feedback.