Study on the Global Critical Disease Challenges Using Biotechnology

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As the global disease challenge, symptoms often rarely appear until a patient's disease is at an advanced stage, especially for some unconventional examples oncology. As stoke or cancer strikes, individuals vary not only in terms of factors that contribute to its occurrence and development, but as importantly, in their capacity to respond to treatment. While exciting new therapeutic options that mobilize the immune system against stoke or cancer have led to breakthroughs for a variety of malignancies, success is limited to a subset of patients. Pre-existing immunological features of both the host and the tumor may contribute to how patients will eventually fare with immunotherapy. A broad understanding of baseline immunity, both in the periphery and in the tumor microenvironment, is needed in order to fully realize the potential of stoke or cancer immunotherapy. Such interrogation of the tumor, blood, and host immune parameters prior to treatment is expected to identify biomarkers predictive of clinical outcome as well as to elucidate why some patients fail to respond to immunotherapy.

Considering whether the blood circulation, the immune system and nutrient metabolism work effectively in all parts of the body is the key to these critical diseases such as Parkinson, Craniocerebral, stoke, cancer and Heart Diseases, etc., we sought to make recommendations that focus on the complexity of the cell/tissue microenvironment, with its diversity of immune genes, proteins, cells, and pathways naturally present at baseline and in circulation, and novel tools to aid in such broad analyses.

Brain is a notoriously difficult organ for drugs to access. Through identifying individualized biomarkers of disease, mechanisms underlying the therapeutic effects of neuromodulation in neurological and neuropsychiatric conditions using modelling and functional imaging techniques, closed loop control, and optimize current therapies in existing patient populations, it is important to explore the fuzzy logic of network connectivity between metabolic state and immune function with critical diseases and key point to implement new approaches and techniques. With the machine learning, computer algorithms, and the current state of the art as applied to the medical and Neuroscience domain, it's possible to build the relationship between diseases and pharmacotherapeutics, to confirm drugs administered orally and clinically equivalent doses, to define the diagnostic criteria through the neuromodulation of cerebral morphology and then to achieve a greater tumor reduction by novel therapeutics.