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Editorial

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Unifying the common concepts shared by neurodegenerative diseases

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Editorial

Neurodegenerative diseases (NDs) such as Alzheimer's disease[1,2] and Parkinson disease[3] are among the big challenges facing the researches and the clinical professionals. NDs have complex mechanism including pathways that are yet to be elucidated. Each of these diseases is often studiesseparately and investigated towards explaining the mechanisms and finding potential therapies of one disease. Changing such approach might be a way to improve the data we obtain.

Indeed, many common features exist between the NDs. Therefore, focusing on such common features and mechanisms will allow us to extrapolate the obtained results and explain a pathway involved in more than one neurodegenerative disease and thus find out potential therapies for more than on neurodegenerative disease. Such methodologies still require further elucidation of the common features linking the divers' neurodegenerative disease and whether they are such links are the results of common underlying pathways or only similar symptoms or phenotypes. These needs collaborations between experts in different fields including the concerned NDs and always study each neurodegenerative disease within the context of the common features shared between more than a neurodegenerative disease and complete the data by cell culture studies results,[4] pharmacology[5-10] and toxicology[11,12] to reach the final goal which is identify efficient therapies.

Such approaches will optimize the efforts aiming to understand the NDs and treat them by reducing the research cost, efforts and time. For building an animal model of a neurodegenerative disease such as Alzheimer's disease[13] expressing a specific feature will contribute to study all the NDs that include that specific feature within its pathogenesis.Importantly, this concept is further strengthened by several facts such as the physiology of the brain that constitutes of a network within which the neurotransmitters are in continuous interactions[14] and the common molecular basics[15] related to the G protein coupled receptors[16] that are of a great importance in both neurophysiology[17] and pharmacotherapy.[18-20] In addition, other non-degenerative diseases share also similar mechanisms or pathways with some NDs which means that the range of extrapolation of the common features shared by some neurodegenerative disease might also include some non-NDs.

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Conflicts of interest

None.

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