

Role of EGFR in Neurodegenerative Diseases †

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Abstract: In almost all the neurodegenerative disorders (ND) known so far, multiple factors are known to trigger changes in the nervous system that lead to ND. Epidermal Growth Factor Receptor (EGFR) is one of the key players in most ND and cancer. Though EGFR has been detected in different tissues and organs, it has exhibited tissue-specific functions. For example, in the lungs, it regulates Raf1-extracellular signal-regulated kinase, PI3K/Akt, and signal transducer and activator of transcription (STAT) factors; in the kidney, it plays a role in renal inflammation, cell growth, and fibrosis in the brain it plays a role in cell proliferation, migration, production, and release of cortisol and prolactin. The degree of expression of EGFR is directly or indirectly involved in activating and inhibiting the pathways that lead to disease development. In this review, we have investigated EGFR function in the brain, astrocyte, and spinal development. It will also discuss EGFR role in ND. The impact of EGFR in Alzheimer’s disease, Parkinson’s disease, and Amyotrophic lateral sclerosis (ALS) are discussed as an example of ND. A prospective idea of EGFR role in COVID-19 has also been discussed.

Keywords: EGFR; neurodegenerative diseases; Alzheimer’s; Parkinson’s; ALS.

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Conflicts of Interest

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