Neurogenic Parkinson's disease effects on EEG signal through deep recurrent neural network

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SUMMARY

In the context of critical care, this article will offer a narrative assessment of the data pertaining to theories, diagnoses, and treatments for neurogenic pulmonary edoema (NPE). Although the precise mechanisms causing NPE are still unknown, putative mechanisms for the condition include increased catecholamine release, increased vagal tone, and increased capillary permeability. This is known as the "blast injury theory" because it causes pulmonary vasoconstriction as a result. The diagnosis entails spotting pulmonary edoema symptoms in the presence of a brain damage, and the most effective treatment methods seem to be those that aim to preserve a normal physiological condition. Any acquired lesion to the brain constitutes an acute brain injury (ABI), which is a major global cause of morbidity and mortality. Twenty to thirty percent of people with ABI get lung damage. Despite being a significant complication, neurogenic pulmonary edoema (NPE) is frequently underdiagnosed.

Keywords: Prognosis; Early evolution; COVID-19; Laboratory data

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INTRODUCTION

In this Study a brand-new computer-aided diagnosis technique for identifying Parkinson's disease was presented (PD). This algorithm's innovative Pooling-based Deep Recurrent Neural Network (PDRNN) is a powerful deep learning technique. The brain's functionality gradually deteriorates with Parkinson's disease. The electroencephalogram, or EEG, signal is employed for early disease identification due to its connection to brain abnormalities. This article examines the electroencephalogram signals of 20 Parkinson and 20 healthy individuals. Additionally, a PDRNN learning approach is used to address the demand for the conventional feature presentation phase on the dataset in question. The suggested approach in this research can provide the necessary precision, sensitivity, and specificity (88.31, 84.84 and 91.81 percent, respectively). Furthermore, our derived [1-5].

PATIENTS AND METHODS

In the brain, the max number of the neurons belongs to the birth time . Dissimilar to other cells of the human body, the brain neurons can't be fixed. So, over the time they die and they can't be replaced . Generally, Parkinson disease results by the death of the nerve cells . The nerve cells generate the dopamine, which is a chemical material. This substance mainly controls the body motions. So, the quantity of the generated dopamine reduces after dying the nerve cells. Then, this situation begins to affect different communication modes of the brain. This disease appears mostly in people with ages about 50 or higher. Unstable posture, muscles' stiffness, slow motions, tremor, balance losing as well as the damaged fine motor skill are some initial signs for PD .Statistically, about ten million persons suffer the Parkinson disease (reported by World Health Organization) . Once there are no visible motor (or non-motor) signs, it's hard to detect the PD.

Hence, the intelligent detection methods can be useful for early diagnosis of the abnormal signs These methods are automated diagnosis systems, and they are able to objectively detect the Parkinson disease by EEG signals. Using the EEG signals, functions of cortical (or sub-cortical) segments in the brain can be simply detected. As well, other disease related to the brain such as Alzheimer and epilepsy can be identified by these signals Thus, the EEG signals are employed in the present work for obtaining a computer-aided system in order to diagnose the Parkinson disease.

CONCLUSION

In patients with ABI, NPE is a prevalent cause of lung damage and should be taken into account with other frequent causes such aspiration pneumonia, pulmonary trauma, and pulmonary embolism. NPE development is linked to worse neurologic outcomes and higher mortality. Acute CNS insults that cause catecholamine surge are the main method by which NPE is caused. Other processes include left ventricular strain Takotsubo cardiomyopathy, shifts in blood volume from the periphery to the pulmonary circuit, and pulmonary venoconstriction. The existence of respiratory symptoms and related imaging results in the presence of a neurologic insult are necessary for the diagnosis. Euvolemia normocapnia and normoxemia should all be maintained as a primary goal of management measures.

CONFLICT OF INTEREST

The authors declare no competing interests.

All authors declare that the material has not been published elsewhere, or has not been submitted to another publisher.

DATA AVAILABILITY

Authors declare that all related data are available concerning researchers by the corresponding author's email.

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