

The Primary Factor Used to Identify Alzheimer's disease Is Memory

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Received date: September 15, 2022, Manuscript No. IPCDD-22-15308; **Editor assigned date:** September 19, 2022, Pre-QC No. IPCDD-22-15308 (PQ); **Reviewed date:** September 30, 2022, QC No. IPCDD-22-15308; **Revised date:** October 07, 2022, Manuscript No. IPCDD-22-15308 (R); **Published date:** October 14, 2022, DOI: 10.36648/2471-1786.8.10.051

Citation: Joyce F (2022) The Primary Factor Used to Identify Alzheimer's disease is Memory. J Child Dev Disord Vol.8 No.10: 051.

Description

Due to a lack of understanding of the disease's underlying mechanisms and therapeutic targets, the development of Alzheimer's drug therapies has been extremely difficult and expensive. We developed a multi-task deep learning pipeline to address the problem of developing AD drugs. This pipeline learns biological interactions and AD risk genes and then uses evidence on drug efficacy at multiple levels to find drug candidates that can be repurposed. In order to find drug combinations that are both safe and effective in preserving neuronal viability and morphology while also reducing oxidative stress, we mechanistically validated the top candidates in neuronal cells. Several drug combinations that are effective biologically were demonstrated by our neuronal response experiments. Although attention has been identified as a primary factor, methods based on the attention factor are being used to identify Alzheimer's. Currently, the primary factor used to identify Alzheimer's disease is memory.

Alzheimer's Detection

The type of divided attention that has the greatest impact on Alzheimer's disease is the most significant. As a result, the few methods that use divided attention to detect Alzheimer's disease are discussed in this review. Four methods were examined, including the PRISMA approach. The methods were evaluated in the review; Magnetic Resonance Imaging (MRI), Positron Emission Tomography (PET), and dual tasks in terms of their effectiveness, efficiency, usability, and limitations. The application of each of these methods in practice was further examined in the analysis to determine which method is best suited to each scenario. Additionally, the review demonstrated a rising demand for dual-tasking, mobile, personal computer-based solutions. Alzheimer's detection is now tracking able and predictable thanks to advancements in mobile health informatics, making these solutions more appealing. The best approach for detection with divided attention will be determined with the assistance of this review. One of the most prevalent neurodegenerative diseases in the world is Alzheimer's disease. Despite the discovery of the disease's fundamental pathology, it is challenging to reverse or avert the progression of neurodegeneration and its symptoms. Small molecule-based and antibody-based approaches have been

studied separately and are currently under investigation, but conjugation as a combined strategy has not yet been attempted. It is possible that conjugation of antibodies and medications that have already been developed specifically for the treatment of Alzheimer's disease will be more effective in reducing symptoms of the disease. In this review, a possible mechanism for antibody-drug conjugates in Alzheimer's disease is discussed. One of the most deliberative CNS disorders, Alzheimer's disease is responsible for dementia and cognitive impairment. Neurodegeneration is the cause of Alzheimer's disease, which is difficult to treat because of many factors like target specificity, the disease's ability to cross the Blood-Brain Barrier (BBB), and negative effects on behavior and physiology. Cognitive impairment, also known as dementia, or behavior that is difficult to track when designing treatment plans, is the main problem with AD.

Although it is known that -Amyloid (A) aggregations and plaques are the primary cause of AD's pathology, few medications have been developed to treat symptomatically or reduce plaque formation. A few prominent treatments, including anticholinesterase inhibitors, NMDA inhibitors, and others, have been developed as a result of research into several receptors and enzyme inhibitors that are associated with AD pathology. A number of biologic-based drugs, in addition to small molecule therapies, have also been developed to specifically target the A aggregates/plaques, tau aggregates, and other AD-causing proteins. Small molecules also have a wide range of negative effects on behavior and physiologic functions in the body, which is why biologics were developed. Small molecules were also unable to specifically target proteins. Monoclonal antibodies, a type of biologic, are restricted to the target protein and do not typically disrupt other enzymes or receptors, thereby lowering the likelihood of side effects.

Chronic Toxoplasmosis Infection

Despite the fact that there are a number of obstacles to their discovery, mAbs still offer safer and more successful outcomes than small molecules due to their target-specificity. An innovative approach to selectively target and release the drug for increased efficacy in a specific pathology appeared to be a linker-linked combination of an antibody and a drug. ADCs are the subject of extensive research and limited approval in oncology for a variety of cancers. In these treatments, the

antibody triggers an immune response, while the drug kills tumor cells. This allows for a dual attack on tumor cells with minimal toxicity from the chemotherapeutic agent. As a result, the same principle can be applied to AD treatment with minor modifications. When compared to individual mAb and small molecule treatments, the current review focuses on how ADCs can effectively slow the progression of AD. Although the exact etiopathogenetic link between *T. gondii* infection and behavioral changes and neurodegenerative diseases like Alzheimer's disease has not been precisely established, numerous studies have identified it as a risk factor.

In addition, the brain's inflammatory changes and neuronal death were calculated through histo-pathological examinations.

According to our findings, the RH strain plays a destructive role in the pathogenesis of AD, whereas chronic toxoplasmosis infection with the PRU strain alone or in combination with the VEG strain can significantly improve cognitive disorders in AD rats. This classification is done with the help of cutting-edge deep learning techniques. Using resting-state functional magnetic resonance imaging (fMRI) to study brain activity related to neurodegeneration, the work is excellent for diagnosing Alzheimer's disease. Using the network's learned weights, brain regions have been analyzed, resulting in the identification of the significant brain regions of interest.