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Perspective

Epileptic Seizures in Geriatric Patients

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PERSPECTIVE

Individuals aged 60 and up are at a higher risk of seizures and epilepsy for a variety of reasons. Since the early 1990s, it has been estimated that almost one-third of cases of *de novo* epilepsy occur in adults over the age of 50, and one-quarter in people over the age of 60. Currently, the prevalence of epilepsy in older individuals (those over the age of 60) is estimated to be around 5-6%, making it one of the most common neurological diseases in this age group. Furthermore, the incidence of epilepsy continuously increases after the age of 50, resulting in greater incidence rates for patients 75 years and older (compared with younger individuals). For adults in their 70s, the incidence is at least 2/1000, and for those in their 80s or later, the rate is at least 4-5/1000. As a result, people over the age of 80 are plainly at the highest danger in wealthy countries, raising concerns about the world's ageing population. Furthermore, the prevalence of dementia is rising at the same time. The global prevalence of dementia is increasing, with estimates that more than 70 million individuals will be infected by 2030, while the global incidence is likely currently 50 million. The vast majority of dementia sufferers (more than 98%) are beyond the age of 60.

The fact that epilepsy and dementia have similar epidemiological tendencies shows a close relationship between these two illnesses. Indeed, neurodegenerative dementias are thought to account for 5-10% of instances of epilepsy in older persons. Because of their twin diagnosis, "epilepsy with dementia," these people are unquestionably among the most susceptible epilepsy sufferers. Social disengagement, psychological and behavioural comorbidities, difficulties associated to poor adherence to therapy, drug-related adverse effects (including falls and accidents), or advancement of the underlying degenerative disease are all hazards. Furthermore, because seizures and epilepsy is frequently drug sensitive, Anti-Seizure Medicines (ASMs) remain the primary therapy option for these patients. One of the most difficult aspects of treatment is limiting the aforementioned risks: a thorough understanding of the available molecules is required, first to ensure enough efficacies against seizures and, second, to prevent pathogenesis as much as feasible. This review's goal is to shed light on these difficulties.

Given the world's increasingly ageing population, the number of elderly people suffering from epilepsy is expected to skyrocket. The prevalence of epilepsy rises over the lifespan, with a peak in older adults, a group at increased risk for cognitive impairment owing to pathological brain ageing, including an increased risk of progressive neurodegenerative illnesses such as Alzheimer's disease. As a result, there is an urgent need to understand the brain changes that occur in older adults with epilepsy in order to guide treatments and/or forecast particular patient trajectories.

Pathological brain ageing is especially concerning for individuals with Temporal Lobe Epilepsy (TLE), many of whom have major memory losses similar to those seen in amnestic Moderate Cognitive Impairment (MCI), the prodromal phase of Alzheimer's disease. It is unknown, however, whether the shared cognitive loss seen in amnestic MCI and older persons with TLE is accompanied by similar patterns of cortical and hippocampal shrinkage. This likelihood of comparable pathological alterations is heightened by mounting evidence of shared pathways between TLE and Alzheimer's disease, such as the presence of tau pathology and elevated amyloid-b in TLE brain tissue.

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