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Australia injects $3M funding for world-first drug trial for poorly controlled epilepsy

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Drug-resistant epilepsy is associated with significantly increased morbidity, mortality and cost of care

Epilepsy affects over 150,000 Australians, and 50 million globally, with one-third struggling to control their condition with currently available anti-seizure medications. These patients with drug-resistant epilepsy have high rates of disability, mental health and thinking problems, and injury and death rates.

Now, for the first time, a new drug has been discovered that is the first potentially curative drug for people with epilepsy who are resistant to control with current anti-seizure drugs.

All currently available drugs used to treat people with epilepsy are symptomatic (only reducing seizure frequency in less than 70 per cent of cases), but without a sustained effect to mitigate or cure epilepsy or its associated conditions.

In a study led by Dr Pablo Casillas-Espinosa and Professor Terry O'Brien from Monash Neuroscience and the Alfred, the researchers report that sodium selenate could be the first medical disease-modifying therapy for epilepsy.

On the strength of such findings, the researchers have been awarded a $3 million Medical Research Future Fund (MRFF) grant to start a clinical trial of sodium selenate as a curative treatment in patients with drug-resistant epilepsy.

124 patients will be enrolled across at least 9 sites nationwide over 2.5 years. According to Professor O'Brien, epilepsy is one of the most common and serious disabling brain disorders which is costly to both individuals and their families, as well as the national health budget with an estimated annual economic cost in Australia of $12.3 billion. .