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Case Report

Sudden Unexpected Death in Epilepsy

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Case Report

We report a case of sudden unexplained death in epilepsy (SUDEP) in a 72-year-old male with newly diagnosed temporal lobe epilepsy. The patient was admitted to a regional hospital following tonic-clonic seizure for 45 seconds and ongoing acute confusion, with a 3-day history of vomiting, nausea and headache. His past medical history included hypertension, chronic kidney disease and prostate carcinoma in remission. On admission, the patient was agitated with blood pressure of 240/150mmHg and sinus tachycardia at 150 beats per minute. The patient was investigated for seizure and delirium. Electrocardiography and bedside echocardiogram were unremarkable. Blood tests including electrolytes, copper, magnesium, calcium, autoimmune screening (ANA, ANCA, CRP, ESR), folate, vitamin D and thyroid function test were within normal limits, except for a creatinine of 250, which is baseline for this patient. CT brain showed no acute pathology. Lumbar puncture showed negative MCS, viral PCR and autoimmune encephalitis panels. He was treated with IV ceftriaxone and acyclovir empirically, and quetiapine and olanzapine for ongoing aggression. The patient was transferred to a tertiary center for further assessment under the Neurology team. The MRI brain showed possible right medial temporal sclerosis, and the EEG showed intermittent slowing in the right temporal region. The patient was diagnosed with temporal lobe epilepsy with prolonged post ictal confusion, and levetiracetam was commenced. He was transferred back to the regional hospital as his confusion resolved and was subsequently cleared for discharge. Whilst waiting for his family to collect him, he was found on the floor with reduced GCS, and CPR was commenced. Death was declared after 45 minutes of CPR. Autopsy did not reveal a cause for death. The patient's cause of death is thought to be SUDEP. SUDEP is defined as the sudden, unexpected, non-traumatic and non-drowning death in patients with epilepsy and excluding status epilepticus, without a structural or toxicologic cause for death in postmortem exam.1 Current research suggest three mechanisms for SUDEP, including cardiogenic aetiology with arrhythmias and cardiovascular disease, respiratory dysfunction with centrally mediated apnoea, and neurologic cardiopulmonary dysfunction. [1] The incidence for SUDEP is 0.58 per 1000 person-years. [2] Risk factors include generalized tonic-clonic seizures, recurrent seizures, younger adults, genetic mutations in ion channels underlying epilepsy, cardia arrhythmia and sudden death.[3] Prone position was reportedly present in 70 percent of all SUDEP. [4] SUDEP is rare, however it can be devastating for patients' family. In this case, the patient and the family were not informed of the risk of SUDEP at the time of diagnosis, which, if done, may have mitigated the shock of this patients' sudden and unexpected death. Current literature advocates for counselling and prevention measures. Most patients and families expect the physicians to provide SUDEP risk information, contrary to the common belief that revealing SUDEP risk can impose psychological distress. [5] American Academy of Neurology strongly recommends informing all patients with epilepsy about SUDEP in general counselling sessions.6 Current preventative measures include identifying patients at risk, optimizing uncontrolled epilepsy, and nocturnal supervision.2 80% of SUDEP death occur at night, and nocturnal supervision has been shown to decreased risk of SUDEP by preventing respiratory failure. [6] In Australia, there are no existing guidelines for SUDEP, and we believe a national guideline focusing on SUDEP disclosure and prevention will be beneficial.

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