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E-BABE-Temporal lobe epilepsy and sleep apnea

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The relation between Temporal lobe Epilepsy *TLE* and Sleep Apnea was not well studied in the past. Either the relation is just coexistence or there is some underlying similarity in neurophysiological pathogenesis is not clear yet. New studies showed a strong evidence between amygdala in particular (Extended amygdala) and Sudden Unexpected Death in Epilepsy (SUDEP). The extended amygdala, comprising chiefly of the central amygdala and the bed nucleus of the stria terminalis, is a part of the central autonomic network that is interconnected between higher order cortical areas, brainstem, and hypothalamic networks. In TLE, an ictal spread to central amygdala may play a major role in autonomic disorder manifested as breathing disturbances that may lead to central hypopnea-apnea or even SUDEP. In 16 SUDEP cases that occurred in epilepsy monitoring units across the world, a consistent sequence of events was observed after each seizure that resulted in SUDEP: rapid breathing followed by generalized tonic-clonic seizure, followed by apnea, followed by increasing bradycardia and postictal generalized electroencephalogram suppression with terminal apnea preceding the terminal a systole. Increasing the awareness of sleep apnea in patient with TLE is crucial in two ways. First, sleep disturbances by itself decreases the seizure threshold and prone patient to have more refractory epilepsy. Second, a patient having sleep apnea in the setting of refractory TLE may prompt toward earlier and more aggressive surgical intervention to obviate catastrophic consequences such as SUDEP.

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