Abstract

Epilepsy is the most common chronic neurological disease, affecting approximately 3% of the world's population. It occurs worldwide, affects women and men of all ages and is characterised by recurrent seizures.

Sudden unexpected death in epilepsy (SUDEP) represents the leading cause of mortality in patients with epilepsy, with respiratory dysfunction playing a significant role in its pathophysiology. This thesis reviews the current knowledge of respiratory dysfunction in SUDEP, and focuses on the epidemiology, categorization and risk factors, with an emphasis on how respiratory dysfunction intersects with these elements to cause sudden death. In the study of respiratory dysfunction and its role in SUDEP, not only clinical studies but also animal models have been crucial and have provided substantial insights into the genetic and acquired epilepsies associated with SUDEP.

Unraveling the pathophysiology and clarifying the role of respiratory dysfunction in SUDEP is essential to recognise at-risk patient groups, improve preventive measures, and ultimately reduce the prevalence of SUDEP.

Key words: epilepsy, SUDEP, respiratory regulation, unexpected death, apnoea, CO_2