**A REVIEW OF SUDDEN UNEXPLAINED NOCTURNAL DEATH SYNDROME (SUNDS) AND THE ROLE OF EXTERNAL STRESS IN SOUTHEAST ASIAN POPULATIONS**

**K. Lo**

UCLA, Los Angeles, CA, USA

**Background:** Sudden Unexplained Nocturnal Death Syndrome (SUNDS) is a cardiac arrhythmic disorder that affects otherwise healthy, young men. First reported in 1917, SUNDS has been documented primarily in Southeast Asian populations. However, the exact etiology of SUNDS remains unknown. The purpose of this review is to develop a potential model for SUNDS based on recent evidence and assess current preventive measures.

**Method:** Autopsy studies and epidemiological data from Southern China, Thailand, Philippines, and the United States were used to analyze the diagnostic features of SUNDS. A physician survey was also conducted in Southern California to help assess preventive measures for this disorder in the U.S.

**Results/Conclusion:**Prior to the onset of SUNDS, patients typically exhibit right bundle branch block and elevated ST segments, which increase the risk for ventricular tachycardia and sudden death. Autopsies, however, reveal no macro- or microscopic changes in the heart to explain these anomalies. Interestingly, 50-70% of patients possess mutations in the SCN5A or KCNQ1 genes, which encode crucial components for cardiac sodium and potassium channels. Epidemiology data across multiple countries also reveal that a significant portion of SUNDS cases coincide with some form of an acute stressor (active infection, fevers, psychological stress, etc.). It is possible that these genetic mutations pre-dispose patients to fatal cardiac conduction issues, and SUNDS occurs when the heart can no longer cope with bodily stress from an external source. As of now, our survey shows that 6 of 69 cardiologists (9%) in Southern California have encountered patients at high-risk for SUNDS. No set preventive measures are in place as not much is known of this disorder. Future research should be aimed at determining SUNDS risk factors and increasing community awareness of this disorder.