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VASUNUN CHUMCHUA: MOLECULAR GENETIC STUDY OF  
MONOAMINE OXIDASE A GENE AMONG VICTIMS OF SUDDEN  
UNEXPLAINED NOCTURNAL DEATH SYNDROM (SUNDS OR LAI TAI).  
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Sudden Unexplained Nocturnal Death Syndrome ( SUNDS ) or Lai-Tai is a syndrome that affects predominantly young and healthy males of North Eastern Thailand. Autopsy studies have not yet identify possible causing factors for these deaths, while it has been observed that several of the victims had relatives that died in a similar manner and some pedigree studies had been reported. A genetic basis for SUNDS has thus been proposed and a previous work had suggested the presence of a deletion or mutation in the monoamine oxidase MAO gene. In this work exons of MAO-A and MAO-B genes of three unrelated SUNDS victims have been amplified by PCR, RT-PCR, and analyzed by sequencing. Considerable DNA abnormalities in the same DNA regions were found in all three victims. While most MAO-A exons of both control and SUNDS victims could be amplified with the appropriate primers, two sets of primers failed to amplify exon 13 in the SUNDS victims but not in the normal cases suggesting a possible deletion or multiple mutation of this exon. In addition, the exon 6 of all SUNDS victim could not be amplified by one of two sets of primers. Sequencing of MAO-A exon 6 from all three SUNDS victims resulted in an unexplainably high level of divergence from the known sequence. However the sequence similarity among the SUNDS victims was substantially higher than with the normal sequence. Corresponding region in all exons of MAO-B gene was successfully amplified from the DNA of all three SUNDS victims. Further studies are required to determine the exact nature of the observed DNA abnormalities and to asses whether they effect MAO-A function in the brain.