MITOCHONDRIAL NEUROGASTROINTESTINAL ENCEPHALOMYOPATHY (MNGIE) IN A MALAYSIAN PATIENT WITH NOVEL MUTATION IN THYMIDINE PHOSPHORYLASE (TP) GENE

K.S. Tan[1], H.G. Lee[2], L.H. Lian[3], Y.S. Lu[2], B.C. Chen [4], C.W. Wang[3], J. Menon[2]
[1] *Dept of Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia*
[2] *Dept of Medicine, Queen Elizabeth Hospital and University of Sabah Malaysia, Kota Kinabalu, Sabah, Malaysia*
[3] *Dept of Molecular Medicine, Faculty of Medicine, University of Malaya, Malaysia*
[4] *Department of Genetics, Kuala Lumpur General Hospital,, Kuala Lumpur, Malaysia*
tanks@ummc.edu.my

Mitochondrial neurogastrointestinal encephalomyopathy(MNGIE) is a rare, progressive, neurodegenerative, autosomal recessive disorder caused by mutations in the thymidine phosphorylase(TP) gene located on chromosome 22q13. MNGIE is characterized by clinical features including lactic acidosis, gastrointestinal dysmotility, cachexia, ophthalmoparesis, ptosis, peripheral neuropathy and leukoencephalopathy. There have been over 30 mutations of TYMP gene since the condition was first recognised in 1976. This is the first reported case of a 25 year-old Malaysian patient presenting with recurrent abdominal pain and subsequently other clinical features of classical MNGIE. Biochemical correlates include elevated plasma levels of thymidine and deoxyuridine. MRI brain showed diffuse leucoencephalopathy and nerve conduction studies were consistent with a demyelinating polyneuropathy. This patient harboured, on DNA sequencing, both a novel and a previously described mutation. The former is a point mutation in exon 5 at protein position 179, resulting in a stop codon and premature truncation of TP activity while the latter mutation occurred at exon 10 resulting in a missense homozygous mutation at protein position 471. Family studies are in progress to elucidate the complete genetic profile.