

Annual Summit on

Sleep Disorders & Medicine

August 10-12, 2015 San Francisco, USA

Circadian rhythm sleep disorders: Characteristics and entrainment pathology in delayed sleep phase and non-24 sleep-wake syndrome

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The sleep-wake rhythm in humans is regulated by the circadian timing system and disorders of this system are known as circadian rhythm sleep disorders (CRSD) which can have multiple etiologies but result in mal-adjustment of the biological clock with respect to the environment. This presentation will focus on a clinical review of delayed sleep phase syndrome (DSPS) and non-24-h sleep-wake syndrome (non-24) which are representative syndromes in CRSD. These syndromes seem to be common and under-recognized in society not only in the blind but also typically emerging during adolescence. Both types of syndrome can appear alternatively or intermittently in an individual patient. Psychiatric problems are also common in both syndromes. DSPS and non-24 could share common circadian rhythm pathology in terms of clinical process and biological evidence. The biological basis is characterized by a longer sleep period, a prolonged interval from the body temperature nadir-to-sleep offset, a relatively advanced temperature rhythm, lower sleep propensity after total sleep deprivation and higher sensitivity to light than in normal controls. There are multiple lines of evidence suggesting dysfunctions at the behavioral, physiological and genetic levels. Treatment procedures and prevention of the syndromes require further attention using behavioral, environmental and psychiatric approaches since an increasing number of patients in modern society suffer from these disorders.

Biography

Masako Okawa completed her Postdoctoral Research Fellow in Sleep Laboratory Baylor College of Medicine, Houston, Texas, USA in 1975, MD in Gunma University School of Medicine, Maebashi in 1967. She worked as Senior Staff Associate in Department of Clinical Neurophysiology, Goteborg University, Sweden from 1979. She held the position as Director, Department of Psychophysiology National Institute of Mental Health, National Center for Neurology and Psychiatry, Ichikawa from 1991 & Japan Foundation for Neuroscience and Mental Health, Tokyo in 2013. She worked as Professor of Sleep Medicine, Shiga University of Medical Science, Otsu & Somnology, Tokyo Medical University, Tokyo in 2006 and 2013 respectively. In her career she was awarded with Baelz Prize for the research on "Biological Rhythms of Elderly Patients with Dementia and Paul Janssen Prize in 1989 and 2005 respectively.

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