

Title:**A closer look at sleep onset rapid eye movement in paediatric multiple sleep latency and nocturnal polysomnography tests.**

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300 word max (inc. references)

Introduction

Previous research in adult populations have shown that sleep onset rapid eye movement (SOREM) periods tend to originate from stage one (N1) sleep in patients with narcolepsy during multiple sleep latency testing (MSLT). SOREM periods from N1 therefore tend to have a higher sensitivity for determining Narcolepsy (especially in Narcolepsy with cataplexy). Other research in children has suggested that the presence of nocturnal SOREM (nSOREM) is strongly associated with Narcolepsy with cataplexy. We tested both these associations in a group of paediatric narcoleptic patients seen in the Evelina London Children's Sleep Medicine Department.

Method

Sleep stage sequence analysis was conducted on polysomnogram (NPSG) and MSLT data in 19 children (aged 11.3 ± 3.1 years) diagnosed with narcolepsy with cataplexy (N+C, n=12) and without cataplexy (N-C, n=7), between January 2014 –February 2015. Retrospective review of nSOREM was also performed in from patients NPSG's.

Results

67 SOREMs were observed from 76 naps. SOREM periods were observed from either wake or N1 sleep in 89.5% of the narcoleptic patients. SOREM from stage two sleep (S2) was observed in the remaining 10.5%. nSOREM was present in 37% of the population and was observed from N1 or wake. All but one patient had a diagnosis of N+C.

Discussion

In this small group N1 SOREM during MSLT is a sensitive test for N-C. nSOREM is much less sensitive and if used alone would miss many true cases. We are extending this study to include random consecutive NPSG studies from other sleep disorders and MSLT from non-narcolepsy hypersomnias to allow specificities and fuller test properties to also be determined.

References:

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