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## Polysomnography and anti-diuretic hormone secretion pattern in children with primary nocturnal enuresis

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**Background:** Data regarding sleep patterns in nocturnal enuresis (NE) and its relation to anti-diuretic hormone (ADH) secretion pattern is deficient. Normally, ADH secretion is increased at night compared to morning so that urine volume decreases during sleep. NE can be caused by nocturnal polyuria due to ADH deficiency or detrusor muscle hyperactivity. We aimed to evaluate the ADH secretion pattern in children with primary NE and compare the polysomnography (PSG) findings between children with a normal ADH secretion pattern to those with a reversed secretion pattern.

**Subjects & Methods:** This study included 28 children, aged 6-18 years with primary mono-symptomatic severe NE. They were subjected to a single overnight attended full PSG. Assay of ADH levels was performed at 9-11 am and 9-11 pm.

**Results:** Reversal of circadian rhythm of ADH secretion was present in 23 children (82%) and normal rhythm was present in 5 (18%). PSG revealed that children with reversed ADH rhythm showed less stage N1 percentage and higher sleep efficiency than the group with normal ADH rhythm. The apnea hypopnea index and periodic limb movements' indices were similar between both groups.

**Conclusion:** Reversed ADH secretion pattern is very frequent in children with NE. Children with reversed ADH secretion had a higher sleep efficiency than NE children with a normal pattern implying that children with nocturnal polyuria have a more consolidated sleep than those with detrusor muscle hyperactivity.

### Biography

Lamia Medhat Afifi completed her MD degree in clinical neurophysiology and Masters of Science in clinical neurophysiology at, Cairo University, Egypt in 2004 and 1999 respectively. She also possesses a GCE degree from the British council in Abu Dhabi, UAE in 1988. Afifi working as a assistant professor in Clinical Neurophysiology Unit, Department of Neurology, Kasr El-Aini Faculty of Medicine, Cairo University, Egypt. She is also associated with Sleep Disorders Center, Stanford University, Egyptian Society of Neurology (Psychiatry and Neurosurgery), and World Academy of Sleep Medicine.

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