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Preud'homme X[1], Krystal A[1], Amundsen C[1], Webster G[1]
***1.*** *Duke University*

# NOCTURNAL DETRUSOR OVERACTIVITY IN OVERACTIVITY BLADDER SYNDROME: A NOCTURNAL CYSTOMETROGRAPHIC AND POLYSOMNOGRAPHIC STUDY

Hypothesis / aims of study

Nocturia is among the most common symptoms of overactive bladder syndrome (OAB) and is associated with some of the most important adverse consequences of this condition[1]. Yet, the ability to effectively treat nocturia remains limited and the pathophysiology of nocturia in OAB patients has hardly been studied[2, 3]. This study was intended to establish methods for studying the physiology of nocturia in OAB patients and in order to improve our understanding of this phenomenon.

Study design, materials and methods

We recorded simultaneous, time-aligned, bladder pressure (nocturnal cystometrographic) and polysomnographic (PSG) data during a single night in the sleep laboratory in: 9 OAB patients with nocturia; 10 insomnia patients; and 5 healthy controls.

Results

Nocturnal detrusor overactivity events (nDO) occurred significantly more frequently in OAB patients than insomnia patients or controls ($p=0.02$). 67% of OAB patients had at least one nDO in the 10 minutes prior to a nocturia episode, while this never occurred in insomnia or control subjects ($p=0.002$). OAB patients were also awake (by PSG) for a shorter period of time prior to nocturia events ($p<0.001$), and had a greater percentage of awakenings due to nocturia than the other groups. Nocturnal polyuria (NP), another possible cause of nocturia in OAB patients was not associated with nDO.

Interpretation of results

It is possible to safely and accurately monitor sleep and bladder pressure physiology during sleep. nDOs appears to occur in association with nocturia in the majority of OAB patients and does not generally occur during sleep in non-OAB subjects, is not due to sleep disturbance and is not linked to NP.

Concluding message

It is hoped that this study will provide a foundation for research on the pathophysiology and treatment of nocturia in OAB.

References

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| ***Is this a clinical trial?*** | **No** |
| ***What were the subjects in the study?*** | **HUMAN** |
| ***Was this study approved by an ethics committee?*** | **Yes** |
| ***Specify Name of Ethics Committee*** | **Duke University Health System IRB** |
| ***Was the Declaration of Helsinki followed?*** | **Yes** |
| ***Was informed consent obtained from the patients?*** | **Yes** |