

THE EFFECT OF FAMILIAL AGGREGATION ON THE CHILDREN WITH PRIMARY NOCTURNAL ENURESIS

Hypothesis / aims of study

Primary nocturnal enuresis (PNE) is a familial aggregative disorder. However, it is not unknown whether and how familial aggregation affects on the children with PNE. The aims of our study was to evaluate the effect of familial aggregation on the children with PNE by evaluating nocturnal urine output, bladder and arouse function.

Study design, materials and methods

According to whether relatives of family of probands over three generations were affected by PNE, forty-five children with familial aggregation PNE (FPNE), seventy children with sporadic PNE (SPNE) and ten children with normal lower urinary tract function but waiting for operation (control group) were included. A questionnaire including a standard set of questions, which reflect the methods parents generally use to awaken a child to take him/her to the toilet, was used to assess arousal from sleep (AS) on a scale of 1 to 8. AS scores of 6 to 8 represented arousal dysfunction. All patients were also asked to complete 2 weeks bladder diary and daytime urodynamic studies.

Results

The incidences of severe PNE and nonmonosymptomatic PNE in FPNE group were significantly higher than those in SPNE group ($P < 0.05$). The nocturnal urine output and AS scores in both PNE groups was significantly higher, maximal voided volume significantly smaller than those in control group. Moreover, the incidences of small bladder in FPNE group was 44%, significantly higher than that in SPNE group (21%), but no significantly difference was found in nocturnal polyuria and arousal dysfunction between two PNE groups. There were 53% patents with daytime detrusor overactivity and 60% patents with urodynamic bladder outflow obstruction in FPNE group, significantly higher than those in SPNE group (19% and 37%, $P < 0.05$). Maximum cystometric capacity significantly decreased from control group to FPNE group.

Interpretation of results

The children with FPNE may have high frequency of bedwetting, and be associated with other lower urinary tract symptom. Moreover, familial aggregation might increase the risk of bladder dysfunction of the children with PNE, including daytime detrusor overactivity and detrusor sphincter dyssynergia and/or increasing max urethral closure pressure (> 100 cmH₂O). However, familial aggregation might have no significant influence on the nocturnal urine output and arousal function of the children with PNE. These results might not be the same with every child with PNE due to not completing continuous natural filling cystometry during sleep at night.

Concluding message

Familial aggregation has significant effects on the children with PNE, and FPNE are more likely to be severe symptoms and bladder dysfunction. It is beneficial to complete urodynamic studies for their diagnosis and treatment.

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<i>Is this a clinical trial?</i>	Yes
<i>Is this study registered in a public clinical trials registry?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	Ethics Committee, The First Affiliated Hospital of Zhengzhou University
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes