The Value of the Ambulatory Urodynamic Study for Evaluation of Treatment Effect of Sacral Neuromodulation

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Since the 1990s sacral neuromodulation (SNM) is a recommended secondary treatment in patients with overactive bladder syndrome (OAB) or non-obstructive urinary retention (NOR), if conservative treatments either fail or lead to adverse events [1]. As SNM is invasive and expensive, and as a predictive factor, a standard test period is applied to evaluate the treatment results, before permanent implantation is performed. Currently, the evaluation of the results of the SNM test period is based on subjective patient reports and voiding diary parameters. Conventional urodynamics are of limited additional value in the selection process [2].

INTRODUCTION

From December 2002 until March 2014 a total of 263 patients with lower urinary tract symptoms were included in a consecutive ambulatory-UDS database. From this database, a subgroup of patients was selected, who underwent ambulatory urodynamic monitoring prior to and during the test period for SNM. Pearson’s Chi-square test, Spearman’s correlation, the positive and negative predictive value, sensitivity and specificity were calculated.

MATERIALS AND METHODS

In 37 patients ambulatory-UDS was performed at baseline and during SNM test period. The group consisted of 24 women and 13 men (table 1). A positive treatment outcome after test stimulation based on subjective parameters, patient reports and voiding diaries, correlates (p<0.0001) well with an improvement on ambulatory-UDS (table 2). Out of 37 patients, 21 showed improvement of more than 50% on voiding diary parameters and had subjective improvement of symptoms. Of these 20 (95%) showed also improvement on ambulatory-UDS (table 2). Of all patients who showed an unchanged recording, 88% (14/16) failed treatment evaluation and were not submitted to permanent implantation. Long-term outcome (average 2.6 years) of implanted patients (total 22) was optimal in the 20 patients also showing improvement on ambulatory-UDS and in the 2 other patients effect decreased, but there was still > 50% improvement.

RESULTS

In 37 patients ambulatory-UDS was performed at baseline and during SNM test period. The group consisted of 24 women and 13 men (table 1). A positive treatment outcome after test stimulation based on subjective parameters, patient reports and voiding diaries, correlates (p<0.0001) well with an improvement on ambulatory-UDS (table 2). Out of 37 patients, 21 showed improvement of more than 50% on voiding diary parameters and had subjective improvement of symptoms. Of these 20 (95%) showed also improvement on ambulatory-UDS (table 2). Of all patients who showed an unchanged recording, 88% (14/16) failed treatment evaluation and were not submitted to permanent implantation. Long-term outcome (average 2.6 years) of implanted patients (total 22) was optimal in the 20 patients also showing improvement on ambulatory-UDS and in the 2 other patients effect decreased, but there was still > 50% improvement.

CONCLUSION

There is a significant correlation between subjective patient reports and voiding diary parameters and results of ambulatory-UDS. Hence ambulatory-UDS can be a useful tool in selection of patients candidate for permanent SNM therapy.

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REFERENCES


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