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Kanematsu A[1], Hashimoto T[1], Yamamoto S[1]
1. *Urology, Hyogo College of Medicine*

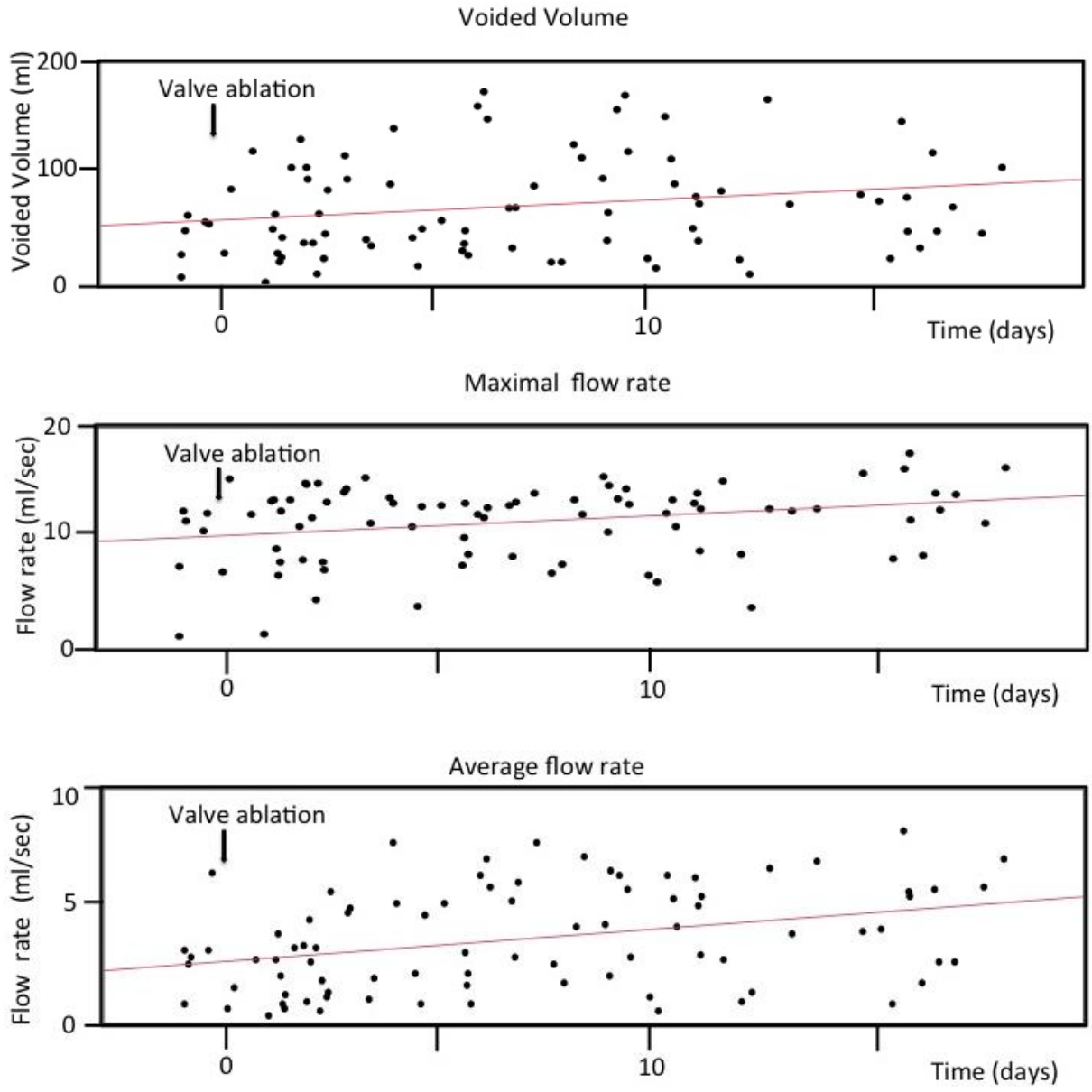
SERIAL AMBULATROY UROFLOWMETRY AFTER TRANSURETHRAL ABLATION OF POSTERIOR URETHRAL VALVES – A PILOT STUDY-

Hypothesis / aims of study

Children with milder type of posterior urethral valves (PUV) sometimes present for daytime or nighttime incontinence during schoolage. Ablation of valves in these children may lead to improvement of symptoms, although the recovery process is not well understood. We employed a new ambulatroy uroflowmetry system (P-Flowdiary™) for children before and after valve ablation. Our initial hypothesis was that valve ablation may lead to rapid increase in urinary flow, subsequently followed by increase in voided volume.

Study design, materials and methods

Three patients, aged 9, 10, and 11 years old, who presented for daytime and/or nighttime incontinence and suspected for PUV by urodynamics and voiding cystometrogram were enrolled. All patients underwent at least 6 month of conservative management with urotherapy and anticholinergics, which did not resolve the symptoms. The patients underwent serial uroflow measurement by P-Flowdiary™ starting a day before surgery and continued for 3 weeks postoperatively. The data were collected at the post-operative visit to the office. The flow pattern was classified by automated software, and analyzed in parallel with other parameters: flow time, voided volume, maximal flow rate, average flow rate.



Results

In all patients PUV existed and were incised endoscopically by hook-type cold knife. Recording of uroflow was successeful for 5-7 times preoperatively, and 26-79 cases postoperatively. A representative chart of a case is shown below. In this case, voided

volume showed only modest increase during the observational period. Unexpected from initial hypothesis, maximal flow rate did not show radical increase either. However, the average flow rate tended to show steady increase during the observational period. For occurrence of abnormal flow pattern, there were high individual variability and no overall trend was noted.

Interpretation of results

Although more data are needed to lead generalized conclusion, this methodology confers a platform that warrant comprehensive analysis of change in urinary flow after valve ablation, which has never been attained by office uroflow system in terms of data quantity and study duration.

Concluding message

Ambulatory uroflowmeter shows changes in uroflow parameters in non-invasive and natural environment, and may reveal unnoticed aspects of micturition behavior.

Disclosures

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