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ACCURACY OF WIRELESS PORTABLE HANDHELD UROFLOWMETRY WITH AUTOMATED RECORDING OF 3DAYS OF FREQUENCY VOLUME CHART

Hypothesis / aims of study

We designed a novel wireless portable handheld uroflowmetry (PHU) which could be recorded in home. The device could obtain an automated frequency volume charts in addition to measurements of the full flow trace and voided volume for multiple voids as well as a single uroflow data without the need for the patients to document results. In this study, we compared accuracy of PHU with the conventional uroflowmetry (CU) in the men with lower urinary tract symptoms (LUTS).

Study design, materials and methods

Fifty male patients with LUTS were tested simultaneously with PHU and CU. The uroflowmetry parameters (maximal flow rate (Qmax), time to peak flow, voided volume, voiding time, average flowrate) were compared to CU. Evaluation agreement between two measurement methods was made using Bland-Altman analysis.

Results

Qmax between PHU and CU were observed with mean difference of 1.71 ± 8.45 ml/sec, respectively. There is no significant difference of Qmax between two devices.

Interpretation of results

PHU shows a good estimate of the results with CU.

Concluding message

PHU was found to be a convenient and more reproducible method of real-life than CU.



Figure 1. Bland-Altman plot : maximal flow rate (Qmax) of PHU and CU (Adjusted R-squared: -0.03952)

Disclosures

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