

## EFFECT OF THE ANTIMUSCARINIC AGENT SOLIFENACIN IN PATIENTS AFTER KIDNEY TRANSPLANTATION: A RANDOMIZED CONTROLLED PROSPECTIVE STUDY

### Hypothesis / aims of study

Renal transplantation (RTx) is broadly accepted as best treatment for end-stage renal disease (ESRD) and the improvement of immunosuppressive medicine brings remarkable results of long-term survival. However, the assessment of urinary function after RTx is not satisfied at present. The storage function and symptom of ESRD was examined by using video-H<sub>2</sub>O-cystometrography (CMG) and the quality of urination after RTx by using CMG and a questionnaire with and without administration of the antimuscarinic agent solifenacin after kidney transplantation.

### Study design, materials and methods

33 patients (20 men, 13 women, mean age; 41.2 years, median; 39 years, mean period of ESRD treatment; 55.3 mo, median; 24.5 mo) who underwent living-related renal transplantation between July 2007 and November 2008 in our institution were divided into two groups by the envelope method. Group 1 was given 5 mg solifenacin o.d. (G1), group 2 was not given any antimuscarinic agent (G2). Bladder storage function was evaluated by CMG, and King's Health Questionnaire (KHQ) and Overactive Bladder Symptom Score (OABSS) before and after renal transplantation.

### Results

No patient discontinued solifenacin due to any side effect such as thirst, constipation, photosensitivity, and dysuria. The mean maximum cystometric capacity (MCC) increased after renal transplantation (G1; 182 to 371.1 mL, G2; 166.2 to 304.4 mL); there was no significant difference between the two groups ( $p > 0.05$ ). The score of OABSS was reduced after transplantation, but there was no significant difference between the two groups ( $p > 0.05$ ). In assessing patient quality of life using KHQ, there was obvious improvement in all domains with statistically significant improvement in the domains of general health and severity ( $p = 0.043, 0.027$ ).

### Interpretation of results

Solifenacin was safe and had the possibility to contribute to the QOL of patients after kidney transplantation.

### Concluding message

The present study demonstrated that patients frequently had bladder dysfunction after RTx caused by long term nonuse of their bladder. To make patients' QOL superior to the current state, we should more focus on bladder function and symptoms in patients after RTx and consider treatment.

<b>Specify source of funding or grant</b>	<b>no</b>
<b>Is this a clinical trial?</b>	<b>Yes</b>
<b>Is this study registered in a public clinical trials registry?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>HUMAN</b>
<b>Was this study approved by an ethics committee?</b>	<b>Yes</b>
<b>Specify Name of Ethics Committee</b>	<b>Tokyo Women's Medical University Ethics Committee</b>
<b>Was the Declaration of Helsinki followed?</b>	<b>Yes</b>
<b>Was informed consent obtained from the patients?</b>	<b>Yes</b>