

## SOLIFENACIN IMPROVES DOUBLE-J STENT-RELATED SYMPTOMS IN BOTH GENDERS FOLLOWING UNCOMPLICATED URETEROSCOPIC LITHOTRIPSY

### Hypothesis / aims of study

The double-J ureteral stent had been widely applied during the endourologic surgery to relieve or prevent ureteral obstruction. Some of the patients might encounter stent-related morbidities, such as lower urinary tract symptoms (LUTS), stent-related body pain and hematuria, which were bothersome and might have a negative impact on quality of life (QoL) and sexual performance for both genders. The pathophysiology of stent-related symptoms remains unclear. However, the pain and LUTS caused by stent placement has been attributed lower ureter and bladder spasm due to local irritation of the stent.<sup>4</sup> Some previous studies indicated oral agents such as tolterodine ER (antimuscarinics), tamsulosin and alfuzosin (alpha-1 antagonists) could improve the stent-related symptoms.

Solifenacin was a novel antimuscarinics used for treating patients with overactive bladder, and might be effective as well for stent-related symptoms. However, the currently existing evidence is scarce. We conducted a prospective study to evaluate the effectiveness and safety of solifenacin for the treatment of double-J stent-related symptoms following uncomplicated ureteroscopic lithotripsy (URSL)

### Study design, materials and methods

A total of 70 patients underwent double-J ureteral stent insertion following URSL were consecutively recruited and received solifenacin postoperatively. Another 70 age- and sex-matched subjects without solifenacin therapy were enrolled as a control group. The clinical data including stone and stent characteristics were collected. All subjects completed the brief-form Ureteral Symptom Score Questionnaire (Chinese-version) to assess the lower urinary tract symptoms, stent-related body pain and hematuria two weeks after operation. The severity of stent-related symptoms were compared between two groups.

### Results

The mean age was 53.8 in solifenacin group and 53.4 years in the control group ( $p=0.87$ ). The stone characteristics, stent size, position and curl completeness were similar in both groups. Compared to the control group, solifenacin group had significantly lower total symptom score, urgency and urge incontinence scores. As for stent-related body pain, solifenacin group had significantly less flank, abdominal, urethral pain and hematuria scores (all  $p<0.05$ ). The solifenacin vs. control group showed significant benefits in lower urinary tract symptoms, stent-related pain and hematuria in both genders (all  $p <0.05$ ). Four subjects encountered minor adverse events (5.7%) and one had urinary retention (1.4%) in solifenacin group.

### Interpretation of results

Solifenacin has been proved to be effective for the treatment of overactive bladder through the antimuscarinic effect. It is reasonable that solifenacin improves the stent-related symptoms such as LUTS, body pain and hematuria by alleviating bladder and ureteral spasm and retrograde pressure transmission to kidney. In the present study, we confirmed that solifenacin was effective for stent-related urgency, urgent incontinence, body pain and hematuria for both genders

### Concluding message

For patients undergoing URSL and double-J stent indwelling, postoperative solifenacin use was effective and well-tolerated for the treatment of lower urinary tract symptoms, stent-related body pain and hematuria irrespective of genders.

### Disclosures

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