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### Holmium laser lithotripsy for ureteral calculi: Predictive factors for complications and success.

#### Part II

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**Introduction:** Ureteroscopic holmium laser lithotripsy is a safe and effective method for ureteral stone management. However, little is known about the changes in success and complication rate over time. Our aim was to analyze changes in success and complication rate with time and to assess the predictors of success and complication.

**Methods:** All 288 consecutive semirigid ureteroscopic procedures for ureteral stones between 1996 and 2011 were analyzed. Data recorded were sex, age, stone size, stone side, stone location, complications and success rate (stone-free rate after three months). Surgeons were divided in groups based on experience. Multivariate analysis was used to define predictive factors for successful procedures and complications. In addition, all procedures were stratified into 2 series and compared with each other. The first series (1996-2005), analyzed and published in 2008, consisted of 105 procedures in 94 patients.<sup>1</sup> In the following series (2005-2011), 177 procedures were performed in 138 patients.

**Results:** The success rate of all 282 procedures was 84.8% and the complication rate according to the Clavien Classification was 10.6%. The success rate of series 2 (84.8%) was similar to the success rate of series 1 (84.8%). The complication rate decreased from 16.2% to 7.3% ( $p=0.02$ ). Overall, surgeon experience was significantly related to success ( $p=0.046$ ), with a success rate of 90.2% in the most experienced group of urologists and 63.2% in the least experienced group. Surgeon experience ( $p=0.026$ ) and the female sex ( $p=0.030$ ) were predictors for complications. Age, stone size and location did not influence complication and success rates.

**Conclusion:** Surgeon experience is a predictive factor for both success and complications in ureteroscopic holmium laser lithotripsy. Success rate has not changed over the years in our center, whereas fewer complications were observed with time. Overall, holmium laser lithotripsy is a safe and effective treatment modality for ureteral stones.

#### Reference:

1. Leijte JAP, Oddens JR, Lock MTWT. Holmium laser lithotripsy for ureteric calculi: Predictive factors for complications and success. *Journal of Endourology* 2008; 22: 257-260.