

PE18 Identifying the relationship between postoperative urinary continence and residual urethra stump measurements in robot assisted radical prostatectomy patients

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Beulens A.J.W.¹, Brinkman W.M.², Umari P.³, Koldewijn E.L.¹, Hendriks A.J.M.¹, Van Basten J-P.⁴, Van Merriënboer J.J.G.⁵, Van Der Poel H.G.⁶, Bangma C.H.⁷, Wagner C.⁸

¹Catharina Ziekenhuis Eindhoven, Dept. of Urology, Eindhoven, The Netherlands, ²University Medical Centre Utrecht, Dept. of Oncological Urology, Utrecht, The Netherlands, ³University of Eastern Piedmont, Dept. of Translational medicine, Novara, Italy, ⁴Canisius Wilhelmina Ziekenhuis, Dept. of Urology, Nijmegen, The Netherlands, ⁵Maastricht University, Dept. of School of Health Professions Education, Maastricht, The Netherlands, ⁶Netherlands Cancer Institute-Antoni van Leeuwenhoek Hospital, Dept. of Urology, Amsterdam, The Netherlands, ⁷Erasmus Medical Centre, Dept. of Urology, Rotterdam, The Netherlands, ⁸Netherlands Institute for Health Services Research (NIVEL), Utrecht, The Netherlands

Introduction & Objectives:

Recent research has shown there might be a correlation between the length and thickness of the urethral stump and the postoperative urinary continence. The co-primary outcomes of this study were to verify the feasibility to measure accurately the length and the width of the urethral stump from recorded videos of robot assisted radical prostatectomy (RARP) procedures using the Kinovea software and to assess if these measurements could be used as predictors of postoperative urinary continence.

Materials & Methods: 53 patients were selected from an institutional database of 1400 cases and included in the study. Patients without RARP recorded video, preoperative-MRI and complete continence data were excluded from the study. All the videos were analysed by a trained researcher using the computer software “Kinovea”. All the measurements were performed while the bladder catheter was inserted into the urethral stump using it as a reference point. Urethral measurements were compared to pre-operative MRI measurements and correlated to the postoperative continence status of the patients.

Results: In 20 out of 53 patients it was not possible to obtain the measurements due to lack of a reference structure during video assessment. Data of 33 patients were available for analysis. Results showed a statistical significant correlation between the surgical urethral length (SUL) and the length of the membranous urethra (MUL) on MRI images ($r=0.390$; p value =0.025). The median SUL was significantly higher in the continent group (10,50 vs 12,94 mm, $p= 0.018$). No significant correlation was found between the urethral width and postoperative urinary continence.

Conclusions: The results of this study show that the length and the width of the urethra can be measured in surgical videos using a software. A comparison to the postoperative continence status of the patients underwent RARP showed a significantly longer median surgical urethral length in continent patients.