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The Long-Term Effect of Radical Prostatectomy on Erectile Function, Urinary Continence, and Lower Urinary Tract Symptoms: A Comparison to Age-Matched Healthy Controls

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Abstract

© 2017 Badereddin Mohamad Al-Ali et al. Introduction. To analyze the impact of radical prostatectomy (RPE) on erectile function and lower urinary tract function in comparison to age-matched healthy men. Materials and Methods. Patients who underwent radical retropubic prostatectomy completed questionnaires containing the IIEF-5, the Bristol female LUTS questionnaire, and the International Prostate Symptom Score (IPSS). Results. Patients after RPE were included (n=363). Age-matched healthy men (n=363) were included. The mean IIEF-5 of patients aged 61-70 yrs after RPE was 10.4 ± 6.6 versus 18.8 ± 5.3 in the control cohort; the respective values for men aged 71-80 yrs after RPE were 7.2 ± 6.5 versus 13.6 ± 7.7 in the control cohort. Urinary incontinence after RPE was reported in 41.9% (61-70 years) and 37.7% (71-80) versus 7.5% and 15.1% in the control cohort. The mean IPSS of patients after RPE aged 61-70 yrs was 5.0 ± 4.4 versus 5.5 ± 4.9 in the control cohort; the respective values for men aged 71-80 yrs were 6.0 ± 4.9 versus 7.5 ± 5.7 in the healthy cohort. Conclusions. The negative effect of radical prostatectomy on erectile and urinary incontinence remains substantial. The physiologically declining erectile and lower urinary tract function with ageing reduces the difference between healthy men and those after surgery. Healthy men have a higher IPSS presumably due to the presence of bladder outlet obstruction.

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References

- [1] F. H. Schröder, J. Hugosson, M. J. Roobol et al., "Prostate-cancer mortality at 11 years of follow-up, " *The New England Journal of Medicine*, vol. 366, no. 11, pp. 981-990, 2012.
- [2] F. C. Hamdy, J. L. Donovan, J. A. Lane et al., "10-Year outcomes after monitoring, surgery, or radiotherapy for localized prostate cancer, " *The New England Journal of Medicine*, vol. 375, pp. 1415-1424, 2016.
- [3] P. C. Walsh, P. Marschke, D. Ricker, and A. L. Burnett, "Patient-reported urinary continence and sexual function after anatomic radical prostatectomy, " *Urology*, vol. 55, no. 1, pp. 58-61, 2000.
- [4] V. Ficarra, G. Novara, T. E. Ahlering et al., "Systematic review and meta-analysis of studies reporting potency rates after robot-assisted radical prostatectomy, " *European Urology*, vol. 62, no. 3, pp. 418-430, 2012.
- [5] I. Schauer, E. Keller, A. Müller, and S. Madersbacher, "Have rates of erectile dysfunction improved within the past 17 years after radical prostatectomy? A systematic analysis of the control arms of prospective randomized trials on penile rehabilitation, " *Andrology*, vol. 3, no. 4, pp. 661-665, 2015.

- [6] S. Carlsson, F. Jäderling, A. Wallerstedt et al., "Oncological and functional outcomes 1 year after radical prostatectomy for verylow-risk prostate cancer: results from the prospective LAPPRO trial, " *BJU International*, vol. 118, no. 2, pp. 205-212, 2016.
- [7] F. Reeves, P. Preece, J. Kapoor et al., "Preservation of the neurovascularbundles is associatedwith improved time tocontinence after radical prostatectomy but not long-term continence rates: results of a systematic review and meta-analysis, " *European Urology*, vol. 68, no. 4, pp. 692-704, 2015.
- [8] S. Rohrmann, V. Katzke, and R. Kaaks, "Prevalence and progression of lower urinary tract symptoms in an aging population, " *Urology*, vol. 95, pp. 158-163, 2016.
- [9] R. C. Rosen, A. Riley, G. Wagner, I. H. Osterloh, J. Kirkpatrick, and A. Mishra, "The international index of erectile function (IIEF): a multidimensional scale for assessment of erectile dysfunction, " *Urology*, vol. 49, no. 6, pp. 822-830, 1997.
- [10] S. Jackson, J. Donovan, S. Brookes, S. Eckford, L. Swithinbank, and P. Abrams, "The bristol female lower urinary tract symptoms questionnaire: development and psychometric testing, " *British Journal of Urology*, vol. 77, no. 6, pp. 805-812, 1996.
- [11] A. Ponholzer, C. Temml, K. Mock, M. Marszalek, R. Obermayr, and S. Madersbacher, "Prevalence and risk factors for erectile dysfunction in 2869 men using a validated questionnaire, " *European Urology*, vol. 47, no. 1, pp. 80-86, 2005.
- [12] M. J. Barry, P. M. Gallagher, J. S. Skinner, and F. J. Fowler Jr., "Adverse effects of robotic-assisted laparoscopic versus open retropubic radical prostatectomy among a nationwide random sample of medicare-age men, " *Journal of Clinical Oncology*, vol. 30, no. 5, pp. 513-518, 2012.
- [13] C. Deliveliotis, C. Liakouras, A. Delis, A. Skolarikos, J. Varkarakis, andV. Protogerou, "Prostate operations: long-termeffects on sexual and urinary function and quality of life. Comparison with an age-matched control population, " *Urological Research*, vol. 32, no. 4, pp. 283-289, 2004.
- [14] V. Ficarra, G. Novara, R. C. Rosen et al., "Systematic review and meta-analysis of studies reporting urinary continence recovery after robot-assisted radical prostatectomy, " *European Urology*, vol. 62, no. 3, pp. 405-417, 2012.
- [15] E. J. Schwartz and H. Lepor, "Radical retropubic prostatectomy reduces symptom scores and improves quality of life in men with moderate and severe lower urinary tract symptoms, " *Journal of Urology*, vol. 161, no. 4, pp. 1185-1188, 1999.
- [16] A. Matsubara, T. Yoneda, H. Yasumoto et al., "Lower urinary tract symptoms after radical perineal prostatectomy, " *Japanese Journal of Clinical Oncology*, vol. 37, no. 7, pp. 534-539, 2007.
- [17] L. Wang, S. F.-C. M. Chung, S. K. H. Yip, W. K. O. Lau, C. W. S. Cheng, and H. G. Sim, "The natural history of voiding function after robot-assisted laparoscopic radical prostatectomy, " *Urologic Oncology*, vol. 29, no. 2, pp. 177-182, 2011.
- [18] D. Slova and H. Lepor, "The short-term and long-term effects of radical prostatectomy on lower urinary tract symptoms, " *Journal of Urology*, vol. 178, no. 6, pp. 2397-2401, 2007.
- [19] J. L. Donovan, F. C. Hamdy, J. A. Lane, M. Mason, C. Metcalfe, and E. Walsh, "Patient-reported outcomes after monitoring, surgery, or radiotherapy for prostate cancer, " *The New England Journal of Medicine*, vol. 375, pp. 1425-1437, 2016.