The Safety and Effectiveness of Transurethral Water Vapor Ablation of Prostate: Literature review

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Background

Benign prostatic hyperplasia (BPH) is a common cause of lower urinary tract symptoms (LUTS) in older men, resulting from the enlargement of the transition zone around the peri-urinary tract. LUTS includes frequent urination, night urination, urinary urgency, and urinary retention. This study aims to determine the safety and effectiveness of transurethral water vapor ablation of the prostate in BPH patients with LUTS.

Methods

A literature review was conducted to assess the effectiveness of transurethral water vapor ablation of the prostate. Guidelines were collected from the Guidelines International Network, the Korean Medical Guideline Information Center, and five clinical society websites, along with additional manual searches.

Table 1. Guidelines

Society	Guidelines
Canadian Urological Association 2022, 2018	Elterman (2022). UPDATE – 2022 Canadian Urological Association guideline on male lower urinary tract symptoms/benign prostatic hyperplasia (MLUTS/BPH). Can Urol Assoc J.
	Nickel (2018). Canadian Urological Association guideline on male lower urinary tract symptoms/benign prostatic hyperplasia (MLUTS/BPH): 2018 update. Can Urol Assoc J.
European Association of Urology 2022	Gravas (2022). Management of non-neurogenic male lower urinary tract symptoms (LUTS), incl. benign prostatic obstruction (BPO). Eur Urol.
American Urological Association 2018 ~ 2021	Lerner (2021). Management of lower urinary tract symptoms attributed to benign prostatic hyperplasia: AUA guideline part II—surgical evaluation and treatment. J Urol.
	Parsons (2020). Surgical management of lower urinary tract symptoms attributed to benign prostatic hyperplasia: AUA guideline amendment 2020. J Urol. Foster (2019). Surgical management of lower urinary tract symptoms attributed to benign prostatic
	hyperplasia: AUA Guideline Amendment 2019. J Urol. Foster (2018). Surgical management of lower urinary tract symptoms attributed to benign prostatic hyperplasia: AUA guideline. J Urol.
National Institute for Health and Care Excellence 2020, 2018	National Institute for Health and Care Excellence(NICE) (2020). Rezum for treating lower urinary tract symptoms secondary to benign prostatic hyperplasia[MTG49].
	National Institute for Health and Care Excellence(NICE) (2018). Transurethral water vapour ablation for lower urinary tract symptoms caused by benign prostatic hyperplasia[IPG625].
Japanese Urological Association & Japanese Society of Internal Medicine 2017	Homma (2017). Clinical guidelines for male lower urinary tract symptoms and benign prostatic hyperplasia. Int J Urol.

Results

The review included two medical textbooks (McAninch & Lue, 2020; Partin et al., 2020) and five guidelines (Canadian Urological Association, American Urological Association, National Institute for Health and Care Excellence, European Association of Urology, and Japanese Urological Association and the Japanese Society of Internal Medicine).

Textbooks and guidelines indicate that most patients undergoing this procedure had no adverse events, with mild to moderate symptoms resolving within three weeks for those affected. Minor and serious adverse events were comparable to other BPH treatments. The technique is noted for preserving sexual function and has lower rates of ejaculatory dysfunction and urinary incontinence compared to Transurethral resection of the prostate (TURP) and Holmium laser enucleation of the prostate (HoLEP), indicating acceptable safety.

Effectiveness is demonstrated by symptom improvement, enhanced quality of life, and a low re-procedure rate. It is recommended for patients with BPH (30–80 cc) with LUTS.

Conclusion

The New Health Technology Assessment Committee determined Transurethral water vapor ablation of prostate in patients with BPH with a prostate volume of 30–80 cc with LUTS a safe and effective technique, and announced through the Korean Ministry of Health and Welfare bulletin No. 2023-14 (25 January 2023).

Table 2. Textbooks

Author (year)	Textbooks
McAninch & Lue, (2020)	Smith and Tanagho's general urology: McGraw Hill Professional; 2020.
Partin et al., (2020)	Campbell Walsh Wein Urology, E-Book: Elsevier Health Sciences; 2020.

Guideline search site

- 1. Guidelines International Network (GIN) - https://www.g-i-n.net/ 2. National Guideline Clearinghouse (NGC)
 - https://www.ahrq.gov/gam/index.html
 - https://archive.org/details/guidelinesgovhttps://www.guidelinecentral.com
 - https://jesse.tg/ngc-archive
- 4. European Association of Urology Guideline - https://uroweb.org/guidelines
- 5. American Urological Association Guideline - https://www.auanet.org/guidelines-x15197
- National Institue for Health and Care Excellence - https://www.nice.org.uk/
- 7. Canadian Urological Association Guideline - https://www.cua.org/guidelines
- 8. Japanese Urological Association & Japanese Society of Internal Medicine

- https://onlinelibrary.wiley.com/doi/toc/10.1002 /(ISSN)1442-2042.guideline