



Title	Holmium Laser Enucleation of Benign Prostatic Hyperplasia
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Aim

To assess the efficacy and safety of holmium laser enucleation of the prostate (HoLEP) versus transurethral resection in treating benign prostatic hyperplasia.

Conclusions and results

Benign prostatic hyperplasia (BPH) is characterized by an increase in glandular size and is one of the most frequent benign tumors in males aged >50 years. Surgical treatment is targeted at improving obstructive urinary symptoms and patients' quality of life, with transurethral resection of the prostate (TURP) constituting the gold standard. Other alternatives developed in recent years include holmium laser technique, which uses energies of 60W to 100W to enable complete enucleation of the prostate.

No significant differences were observed between holmium laser enucleation of the prostate and TURP in maximum urinary flow (Q_{max}), at either 6 or 12 months of follow-up. Likewise, a subsequent study reported no differences at 3 years of follow-up. Postmicturial volume of residual urine (PVR) was lower in the HoLEP group, though this was not clinically relevant, and no differences were observed in urinary symptoms as measured by the International Prostate Symptom Score/American Urological Association (IPSS/AUA) scales. Compared to TURP, HoLEP resulted in less urinary catheterization time and shorter hospital stays and blood loss, albeit at the cost of a longer intervention time. There were no differences vis-à-vis TURP in the appearance of adverse effects, and intervention rates proved similar.

While scientific information shows that HoLEP is at least as effective as TURP, the studies have methodological limitations, which prevent firm conclusions from being drawn. HoLEP reduces patients' obstructive symptoms and, as compared to TURP, yields similar Q_{max} and better PVR results. No differences were observed between the techniques in sexual function, quality of life, or IPSS/AUA scale assessments. HoLEP is associated with longer intervention time, though with

a lower degree of blood loss, hospital stay, and urinary catheterization time than TURP. No differences were observed between techniques in terms of adverse effects and reintervention rates.

Recommendations

Although holmium laser technique cannot be conclusively recommended as treatment for BPH on the basis of current evidence, this technique could be an alternative to TURP in future. Surgical teams need to be adequately trained, and selection criteria need to be established to identify patients eligible for treatment. Should the health system use holmium lasers, follow-up protocols and a register should be created to enable the effectiveness and safety of this technique to be assessed.

Methods

The scientific literature was systematically reviewed, including qualitative and quantitative synthesis (meta-analysis). A first bibliographic search of the Cochrane Library Plus, DARE, HTA, MEDLINE, and EMBASE databases retrieved all published systematic reviews, meta-analyses, and clinical practice guidelines. After these had been evaluated, a quality meta-analysis was selected and updated by conducting a second bibliographic search of general databases (MEDLINE, EMBASE) and repositories of published or ongoing RCTs (Clinical Trials Registry, Cochrane Central Register of Controlled Trials, Current controlled trials, and National Institute of Health Research), to locate randomized controlled clinical trials that compared HoLEP to TURP.