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Title **Transurethral Needle Ablation (TUNA) - February 2002**

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Aim

To assess the safety, effectiveness, and cost effectiveness of Transurethral Needle Ablation (TUNA) for the treatment of benign prostatic hyperplasia (BPH) and under what circumstances such services should be supported with public funding.

Conclusions and results

Safety: TUNA appears to be a relatively safe procedure. Randomized trial evidence suggests that TUNA has fewer postoperative complications, such as bleeding, than does TURP. Nonrandomized data suggest that apart from urinary retention, which appears more common with the TUNA procedure, the early adverse event rate for TUNA and TURP is similar. It is also likely that TUNA results in fewer complications relating to sexual function than does TURP. However, as TUNA has also evolved over time, it is possible that the newer TUNA procedures may result in fewer complications than older procedures, although at this stage this remains unclear. TUNA may also be of value in patients with a high anesthetic risk as it can be performed as an outpatient or in-clinic procedure. Again, further evidence is needed.

Effectiveness: This review is based on a relatively small body of evidence. Overall, TUNA appears to be relatively effective for the short-term management of symptoms associated with BPH. However, data suggest that the duration of maximum benefit for TUNA is between approximately 3 and 12 months, depending on the parameter measured. This duration of benefit is shorter than that seen for patients treated with TURP (longer than 3 years), with more TUNA patients than TURP patients experiencing a return of BPH symptoms and more requiring retreatment in the longer term.

Cost effectiveness: A decision analysis model was designed, based on a set of plausible assumptions, to assess the comparative cost effectiveness of TURP and TUNA as initial treatment for symptomatic BPH. The base case analysis indicated that treating patients initially with TURP was both more effective and less costly than treating initially with TUNA. Over a range of sensitivity analyses, this conclusion varied from TURP being a cost effective initial treatment to TUNA being a cost effective initial treatment for patients with BPH. The analysis was particularly sensitive to the annual failure rate of both procedures and, subsequently, to the duration of followup. The conclusion regarding optimal initial treatment changed over the plausible ranges evaluated. Additional clinical data are required to strengthen our certainty concerning particular variables before definitive conclusions can be drawn regarding the relative cost effectiveness of TUNA and TURP in this setting.

Recommendations

MSAC recommended that interim funding for 3 years be supported, and that this funding be restricted to treating particular patient groups and acquiring data on the type of patients treated and safety data to monitor the use of TUNA under these interim arrangements.

Methods

The NHMRC Clinical Trials Centre at the University of Sydney conducted a systematic review of the literature on the role of TUNA. The following sources were searched from commencement to June 2001: MEDLINE, PreMedline, NLM Health Services Research Databases, Biological Abstracts, Best Evidence, Australian Medical Index, Current Contents, EMBASE, Cochrane Library, ISTAHC, and the NHS Databases; DARE, EED, and HTA. Internet and health technology assessment agency sources were searched; studies were also identified from MSAC applications and members of the Supporting Committee.

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