#682. Factors predicting functional outcomes following the use of urethral bulking agents: a scoping review

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INTRODUCTION

Urethral bulking agents (UBA) are one of the recommended treatment options in the guidelines for the management of stress urinary incontinence (SUI). Current evidence demonstrates a lower efficacy when comparing UBA to mid-urethral slings (MUS).^[1] Given the minimally invasive nature and decreased complications associated with UBA use, it's prevalence in SUI management is increasing.^[2] Studies have demonstrated high variation in the dry rate achieved.^[1, 3] The preoperative factors that relate to functional outcomes of UBA are incompletely understood.^[4]

RESULTS

FACTORS THAT INFLUENCE POST-OPERATIVE FUNCTIONAL OUTCOME	
INCREASE EFFECT	DECREASE EFFECT
Age > 60	History of radical pelvic surgery
< 2.5 daily stress urinary incontinence episodes	<20 procedures performed by surgeon
Duration of incontinence < 10 years	Increased severity of baseline incontinence

OBJECTIVES

The aim of this review was to understand what pre-operative patient or clinician factors or characteristics are predictive of UBA interventional outcomes for SUI.

METHOD

A systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The study was prospectively registered with PROSPERO: CRD42024562967.

Medline, PubMed, Embase, Cochrane trials, and Google Scholar were searched from e inception until May 1st, 2024. Included papers needed to state that female human patients with SUI underwent treatment with UBA, and describe factors with predicted functional outcomes. Studies were excluded if they had male participants, or if neurogenic overactive bladder (nOAB) was included. Maximal urethral closure pressure > 20

DISCUSSION

We have systematically reviewed 12 relevant studies published, thereby identifying key patient factors that contribute to the functional outcomes achieved following the use of urethral bulking agents. This systematic review has highlighted that the current literature is heterogenous, with a range of different study designs. Further to this, the literature includes the use of different bulking agents, alongside several subjective definitions of 'dry' and patient satisfaction criteria.

CONCLUSION

This systematic review has demonstrated that prior radical pelvic surgery, low surgeon skill and parity all decrease the functional outcome following the use of UBAs. On the other hand, age >60; less than 2.5 episodes of stress urinary incontinence per day; urethral hypermobility; a duration of incontinence less than 10 years; and a maximal urethral closure pressure greater than 20; are all associated with an improved functional outcome with UBAs. Ultimately, more robust randomised controlled studies are required in this area to provide sufficient evidence.

Two reviewers independently completed data extraction. Any disputes were resolved by a third reviewer. Relevant data collected included study design, aim, methodology, outcomes, limitations.

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