

REVIEW

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Seminal papers in urology: anticholinergic therapy vs. onabotulinumtoxinA for urgency urinary incontinence

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Abstract

In this critical review, we explore the study design, strengths, and limitations of landmark trial "Anticholinergic therapy vs. onabotulinumtoxinA for urgency urinary incontinence". This trial was the first to directly compare two key treatment options for urge urinary incontinence – anticholinergic medication and intravesical botox, and still influences clinical guidelines a decade after publication. This non-inferiority, double-blinded, multi-centre randomised controlled trial administered Solifenacin or intra-detrusor botox to women, measuring outcomes six months post-treatment. Non-inferiority of the treatments was established, though Botox had a higher rate of retention and infection, with side effect profile rising as the key discriminator in selecting first-line therapy.

The clinical problem

Urgency urinary incontinence (UUI) is a highly prevalent condition affecting up to 36.4% of individuals worldwide [1], with prevalence increasing with age. It is a common part of Overactive Bladder syndromes (OAB) [2].

Traditionally, anticholinergic medications have been utilised as mainstay agents in reducing incontinence episodes, with intravesical injection of OnabotulinumtoxinA (Botox) regarded as an option for resistant cases [3, 4]. This is still reflected in current guidelines, with both the American Urological Association (AUA) [5] and European Association of Urology (EAU) [6] non-neurogenic OAB Guidelines recommending behavioural modification as first-line therapy, followed by anticholinergic medications in patients who fail a conservative approach.

Surgical management via intravesical Botox injection is therefore a third-line treatment, recommended specifically for UUI refractory to pharmacotherapy.

However, both therapy pathways carry side effects that can significantly impact quality of life (QoL) and treatment adherence, and though a meta-analysis in 2009 [8] found both options to be effective in isolation, it highlighted a dearth of evidence directly comparing these pathways.

The landmark paper

"Anticholinergic Therapy vs. OnabotulinumtoxinA for Urgency Urinary Incontinence" [7], published November 2012 in *The New England Journal of Medicine*, sought to directly compare anticholinergic pharmacotherapy to intravesical Botox injection, evaluating efficacy in reducing urge incontinence episodes, as well as real-world QoL effects and adverse event profiles, with an aim to guide selection of initial treatment.

The study was a randomized, double-blind, double-placebo-controlled trial, which is commonly accepted as gold standard for investigating comparative efficacy of

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