

## THE PHARMACOLOGIC TREATMENT OF OAB: A SYSTEMATIC EVIDENCE REVIEW

### Hypothesis / aims of study

Overactive bladder syndrome (OAB) is operationally defined as idiopathic urinary urgency and frequency with or without associated incontinence in adult females, not related to neurogenic conditions or as a result of surgery. Pharmacologic treatments for OAB include agents which prevent or decrease the intensity of involuntary detrusor contractions.

### Study design, materials and methods

The Evidence- based Practice Center at our institution was contracted by the Agency for Healthcare Research and Quality to review the literature on the management of Overactive Bladder, including pharmacologic interventions (1). Multi-term search strategies of databases: PubMed, MEDLINE®, EMBASE, and (CINAHL) were performed to retrieve original studies of treatment of OAB in women. The reference lists of relevant articles were hand-searched to identify additional studies. Excluded studies were those published in languages other than English, did not report information pertinent to the treatment of OAB, had fewer than 50 participants [at enrollment], were not original, and had a pediatric study population. Outcomes reported were urge incontinence episodes (UUI) and voids per day. A limited meta-analysis was performed.

### Results

We identified 110 studies. Thirteen were randomized controlled trials (RCTs) of Oxybutynin (OXY), 19 RCTs of Tolterodine (TOL), 2 RCTs of Fesoterodine (FES), 3 RCTs of Solifenacin (SOL), 4 RCTs of Darifenacin (DAR), and 5 RCTs of Trospium (TROS). All pharmacologic treatments were effective at improving one or more OAB symptoms when compared to placebo. Reductions ranged from 0.9 to 4.6 in UUI per day across all drug treatments and from 0.7 to 4.2 in voids per day. Extended release (ER) formulations achieved modestly better effects than immediate release (IR), and statistical significance varied. No one drug was definitively superior to others by preponderance of evidence, including more recently approved drugs. As estimated by meta-analysis, ER formulations reduced UUI by 1.78 (95% CI: 1.61, 1.94) episodes per day, and voids per day by 2.24 (95% CI: 2.03, 2.46). IR formulations reduced UUI episodes by 1.46 (95% CI: 1.28, 1.64) per day, and voids per day by 2.17 (95% CI: 1.81, 2.54). Placebo reduces UUI episodes by 1.08 (95% CI: 0.86, 1.30), and voids per day by 1.48 (95% CI: 1.19, 1.71).

### Interpretation of results

Current evidence is insufficient to guide choice of treatments. Medications can provide symptom relief and reduce Urge urinary incontinence episodes and voids per day by a modest amount.

### Concluding message

Well conducted randomized controlled trials of longer duration are needed.

### References

1. Hartmann KE, McPheeters ML, Biller DH, Ward RM, McKoy JN, Blume JD et al. Treatment of Overactive Bladder in Women. Evidence Report/ Technology Assessment No. 187 (Prepared by the Vanderbilt Evidence- based Practice Center under Contract No. 290-2007-10065-I). AHRQ Publication No. 09-E017. Rockville, MD: Agency for Healthcare Research and Quality. August 2009.

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**Is this a clinical trial?**

**No**

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**What were the subjects in the study?**

**NONE**

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