

Mirabegron for overactive bladder

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Clinical question

What are the benefits and harms of mirabegron for patients with overactive bladder (OAB)?

Bottom line

Compared to placebo, 25 to 50 mg/day of mirabegron reduces voids by 3 to 5 per week and incontinence episodes by 3 per week, with similar adverse effects at 12 weeks. Anticholinergics and mirabegron have similar efficacy. Fewer patients taking mirabegron have dry mouth (about 3% versus [vs] 8%) or tachycardia (about 1% vs 2%) at 12 to 52 weeks. Mirabegron costs about \$30 per month more than lower-cost anticholinergics.

Evidence

Evidence is 7 systematic reviews (8 to 14 randomized controlled trials [RCTs], 5500 to 10,774 patients with non-neurogenic OAB).¹⁻⁷ Results are statistically different unless stated.

- Compared with placebo (at 12 weeks):
 - Voids: Reduced by 3 to 5 per week vs placebo^{1,3,4} (eg, from baseline 80 voids/week to 68 for mirabegron vs 72 for placebo⁸).
 - Incontinence episodes: Reduced by 3 per week vs placebo^{1,3,4} (eg, from baseline 19 episodes/week to 8 for mirabegron vs 11 for placebo).⁸
 - Adverse events: No difference in hypertension, urinary tract infection (UTI), dry mouth, and constipation.^{1,3,6,7} Nasopharyngitis was inconsistent; increased in 2 of 3 reviews (2.5% to 6.4% vs 1.6% to 3.2% [placebo]).^{1,3,6}
- Compared with anticholinergics (at 12 to 52 weeks):
 - No difference in voids or incontinence per week.^{2,4}
 - Adverse events:
 - Dry mouth^{2,5}: 3.1% to 3.6% vs 7.6% to 9% (anticholinergics); number needed to treat (NNT)=20.
 - Tachycardia (reported in 1 review)⁵: 1.5% vs 2.3% (anticholinergics); NNT=125.
 - No differences in hypertension, UTI, constipation, and withdrawals due to adverse events.^{2,5,7}
- Limitations: Short duration for serious adverse events, most RCTs were industry funded, and mean age was usually 55 to 60 years, limiting generalizability.

Context

- Guidelines recommend anticholinergics or mirabegron after non-invasive therapies (eg, bladder training, pelvic floor physiotherapy, weight loss).⁹
- Anticholinergics all have similar efficacy and adverse effects with few exceptions (eg, oxybutynin vs tolterodine:

dry mouth, number needed to harm [NNH]=6; withdrawal, NNH=17).¹⁰ Extended-release formulations cause less dry mouth than immediate release (NNT=12).¹¹

- Cost (30 days)¹²: 5 to 10 mg/day of solifenacin costs \$10; 2 to 4 mg/day of long-acting tolterodine costs \$16; and 25 to 50 mg/day of mirabegron costs \$46.

Implementation

Before and during drug therapy implementation, address modifiable contributors to incontinence.⁹ While symptom resolution may be desired, discuss reasonable expectations (eg, fewer voids vs back to “normal”). If switching from an anticholinergic to mirabegron because of adverse effects, monitor closely to avoid trading one problem for another, particularly in older adults, for whom safety data are limited. Mirabegron may provide benefit by 1 week, but a 4- to 8-week trial is suggested to judge consistent improvement.¹³ If no benefit is evident after multiple drug trials, consider abandoning pharmacotherapy. 🌿

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Competing interests

None declared

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