

Efficacy and Safety of Mirabegron vs Vibegron in The Treatment of Overactive Bladder Symptoms. A Systematic Review

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Abstract : Introduction: Overactive bladder (OAB) is defined as urinary urgency with or without urinary incontinence, usually with increased daytime frequency and nocturia in the absence of infection or other pathologies. The worldwide prevalence of OAB is estimated to be around 12% of the female population in 2018. The Overactive Bladder Symptoms Score (OABSS) questionnaire was invented and validated in Japan, which includes four questions to diagnose and grade the severity of OAB. Treatment modalities for OAB can range from behavioural therapies to pharmacological, minimally invasive, and invasive therapies and indwelling catheters. Anticholinergics have been the mainstay of the treatment of OAB symptoms for years. However, their use is associated with increased risks of adverse effects, such as dry mouth and constipation. Furthermore, there is growing evidence that links the use of anticholinergics with an increased risk of dementia. Beta-3 receptor agonists offer an alternative treatment option to anticholinergics with similar efficacy and fewer adverse effects. The first beta-3 receptor agonist was mirabegron, which was licensed for use in December 2012 in the UK. Vibegron is a novel and selective adrenergic beta-3 receptor agonist that was licensed in July 2024 in the UK. With both mirabegron and vibegron as available options now, it is necessary to assess if one medication is superior to the other. Method: it conducted a systematic literature review of head-to-head randomised clinical trials (RCTs) that compare mirabegron to vibegron. Results: The systematic search revealed a total of three eligible RCTs. All three studies were conducted in Japan between 2019 and 2022, with duration ranges from 12 weeks to 16 weeks in total. Mirabegron and vibegron doses were 50 mg once a day. One of the RCTs was an open-label study, and one was a multicenter crossover RCT. The grade of evidence of the included studies ranges from fair to good evidence. The total number of participants in all studies was 310 participants. All patients were females with treatment-naïve OAB. Two studies involved post-menopausal women only, and the third study included females of 50 years and above. The primary outcome of all studies was the change of OABSS score from baseline. All studies concluded that both medications were similarly effective in improving OABSS scores with no significant difference in safety profile. Conclusion: Mirabegron and vibegron are both effective in the treatment of OAB with no significant difference in terms of efficacy and safety profile. As the licensed vibegron dose in the UK is 75 mg, head-to-head RCT comparing mirabegron 50 mg to vibegron 75 mg is necessary to assess the difference in the efficacy.

Keywords : mirabegron, vibegron, overactive bladder, anticholinergics

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