Drug persistence and adherence in the treatment of overactive bladder

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Cite as: *Can Urol Assoc J* 2015;9(9-10):351-2. http://dx.doi.org/10.5489/cuaj.3367
Published online October 13, 2015.

The article by Wagg and colleagues in this issue of *CUAJ* looks at the very important issue of drug use persistence and adherence in overactive bladder (OAB) treatment.[1] The authors found that mirabegron, a new beta-3 adrenergic agonist for OAB, had a significantly higher persistence rate of 31.7%, with the next closest being solifenacin at 22% at 1 year. Even within the mirabegron group, there was a difference between naive (19% persistence) versus experienced patients (30% persistence). Not surprising they found the lowest persistence rate was with oxybutynin immediate release (13.8%), which generally has the highest rate of side effects. Younger patients and men had a greater tendency to discontinue medication.

Interestingly, those patients that had a greater number of concurrent medications had better persistence. The explanation for this is harder to understand. Overall these results of better persistence with mirabegron are not surprising since one of its major advantages is its lack of anticholinergic side effects. These side effects are one major reason that patients stop OAB antimuscarinic medications.

There are some issues with this study that the authors point out, including that the data comes from prescription claims data and was retrospective. No one really knows how accurate this prescription claims data really is, but to date it is the best information we have. The study was also done just as mirabegron was introduced into Canada; therefore, its uptake may have been significantly higher as a completely new class of drug to treat OAB. Longer experience with the drug may ultimately alter its persistence rates. One other problem with these types of retrospective prescription data analysis is simply that no patients are actually questioned as to why they do not stay on the medication. It appears that this problem of adherence is not confined to our healthcare system. Wagg and colleagues performed a similar study in the United Kingdom using a prescription database again for OAB which showed similar results.[2] Solifenacin in this study (mirabegron was not available at that time) had the highest persistence rate at 1 year at 35%. They also found similarly that patients ≥60 years old were more likely to stay on OAB medication.

The question remains, as the authors point out, if mirabegron has none of the anticholinergic side effects, is well-tolerated, and is as effective as other OAB medications why then is the persistence rate still only 32%? The answer is not exactly clear, but is likely a combination of factors. These would include its side-effect profile, cost, effectiveness in treating OAB symptoms, patient education level and socio-economic status, patient lifestyle, age, gender, and ethnicity, and frequent patient follow-up. Counselling and nurse availability to answer questions also affects medication persistence. Is the problem of drug adherence or persistence an issue with other medical problems? It indeed is even with serious illnesses. About 50% of patients with hypertension discontinue their antihypertensive medication after 1 year.[3,4] It has also been shown that at 10 years the persistence rate of using antihypertensive medications is as low as 39%.[5] If drug persistence is low in patients with illnesses that can result in serious morbidity if untreated, like hypertension, it is not surprising to see such poor persistence rates with drugs to treat OAB, a low morbidity illness (albeit an illness with a significant impact on quality of life).

What we need today is a well-designed prospective clinical trial to assess exactly why drug persistence is so low in patients treated with medications for OAB. This would go along way in addressing patient's needs and effectively treating our patients and improving their quality of life.

Competing interests: Dr. Radomski is a member of the advisory boards for Pfizer, Astellas, Merus, Lilly and Allergan. He is also participating in a clinical trial with Pfizer, Astellas, and Allergan.

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