

PERSISTENCE WITH MIRABEGRON IN PATIENTS WITH OVERACTIVE BLADDER : A COMPARATIVE STUDY OF MIRABEGRON AND ANTIMUSCARINICS.

Hypothesis / aims of study

Antimuscarinic is recommend as first line medical treatment for people with overactive bladder(OAB) . However, many patients do not persist and comply with the antimuscarinic treatment because of mainly the high frequency of adverse event. In Japan, mirabegron, which is a selective beta-3 adrenergic receptor agonist, has been approved for OAB symptoms since September 2011. Mirabegron may be more efficacy and less adverse events than antimuscarinic. The aim of the present study was to evaluate whether persistence and frequency of adverse event with mirabegron is better than antimuscarinic.

Study design, materials and methods

From medical records, we identified 412 cases treated with antimuscarinics (imidafenacin, solifenacin or tolterodine) or mirabegron for OAB symptoms during a 5-year period(from September 2008 to September 2013) at our institution. Of those, 270 cases treated with medications as first line treatment and 237 cases were female patients. Cases with the history of urological surgery were excluded. The persistence and adverse events of medications were retrospectively evaluated between mirabegron and antimuscarinics in each groups.

Results

Overall, the mean age was 71.0 years. The median follow-up period and the median duration of medications were was 22.9 months and 8.39 months, respectively.

Mirabegron were prescribed for 68 cases. Antimuscarinics were prescribed for 344 cases (imidafenacin:79, solifenacin:149, tolterodine:116). The 6- and 12-month persistence rate in cases taking mirabegron were 57.5% and 38.1%, which were significantly different from those taking antimuscarinics(40.2% and 30.2%, respectively, $p=0.029$, Fig.1). In comparison to each antimuscarinics, the 12-month persistence rate in cases taking imidafenacin, solifenacin and tolterodine were 35.8%, 34.4%, and 20.0%, respectively. Only persistence rate of tolterodine was significantly different from those taking mirabegron($p=0.001$). Multivariate analysis demonstrated that kind of medication was an independent predictor for persistence($p=0.041$, HR=1.46). The frequency of adverse events in those taking mirabegron was significantly less than in those taking imidafenacin, solifenacin and tolterodine($p=0.016$, <0.001 , 0.007 , respectively).

In first line treatment group, mirabegron were prescribed for 24 cases. Antimuscarinics were prescribed for 246 cases(imidafenacin:41, solifenacin:103, tolterodine:102). The 6- and 12-month persistence rate in cases taking mirabegron were 67.4% and 37.9%, which were significantly different from those taking antimuscarinics(37.1% and 27.6%, respectively, $p=0.037$). The frequency of adverse events in those taking mirabegron was significantly less than in those taking imidafenacin, solifenacin and tolterodine($p=0.007$, <0.001 , <0.001 , respectively).

In female group, mirabegron were prescribed for 41 cases. Antimuscarinics were prescribed for 196 cases(imidafenacin:43, solifenacin:85, tolterodine:68). The 6- and 12-month persistence rate in cases taking mirabegron were 57.5% and 39.2%, which were significantly different from those taking antimuscarinics(38.3% and 28.2%, respectively, $p=0.034$). The frequency of adverse events in those taking mirabegron was significantly less than in those taking imidafenacin, solifenacin and tolterodine($p=0.004$, <0.001 , $=0.001$, respectively, Fig.2).

Interpretation of results

The persistence of mirabegron was better than antimuscarinics, and the frequency of adverse events in those taking mirabegron was statistically less than antimuscarinics.

Concluding message

The findings suggest that mirabegron may have lower frequency of adverse events and better tolerability than antimuscarinics. It will be necessary to evaluate the long-term persistence and the efficacy of mirabegron.

mirabegron vs antimuscarinics

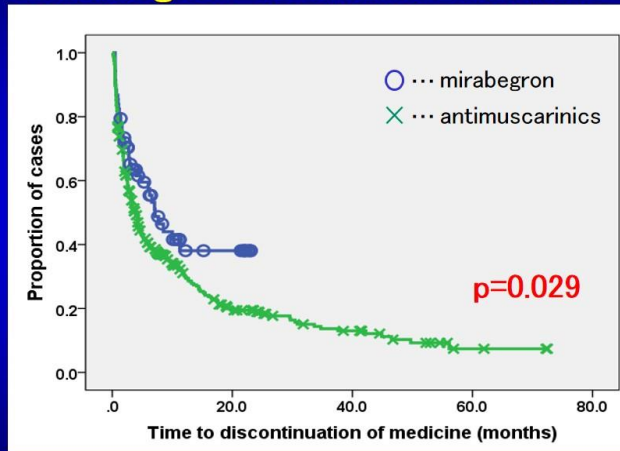


Fig.2

The frequency of adverse events

	adverse events (+)	adverse events (-)	p value (vs mirabegron)
mirabegron	6	62	
antimuscarinics	109	235	<0.001
imidafenacin	19	60	0.016
solifenacin	61	88	<0.001
tolterodine	29	87	0.007

Disclosures

Funding: none **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** this study is retrospective study. Now we apply for this study approval at our institution's ethics committee. **Helsinki:** Yes **Informed Consent:** Yes