INTRODUCTION

• Osteoporosis is a condition characterized by low bone mass and microarchitectural deterioration of bone tissue and thus an increase in bone fragility and the risk of fracture. Several therapies are available for the prevention and treatment of osteoporosis, including estrogens, bisphosphonates and other interventions such as calcium & Vitamin D (1).

• Low persistence and poor compliance with prescribed medication are important factors in treatment failure. Studies have shown that up to 50% of patients drop out of osteoporosis treatment during the first year (2,3) and 30-50% of patients fail to take their medication as recommended (4).

OBJECTIVES

• Describe the Hungarian postmenopausal osteoporotic population.
• Estimate the persistence rate in the Hungarian population by postmenopausal osteoporosis (PMO) treatment administration interval and active substance.
• Estimate the level of compliance with all PMO treatments by administration interval and active substance in the Hungarian population.

RESULTS

• 223,068 patients matched inclusion criteria. The characteristics of these patients at index date (i.e. the start of the analysis period) are described in Table 1.

  - 49.7% of these patients were older than 70 years and 6.4% had prior fractures at index date.
  - 79.5% of these patients were on oral bisphosphonates (OBPs), 8.2% on intravenous (IV) BPs and 12.3% on other therapies.
  - Weekly administration was the most common, with more than half of the patients on alendronate.

Table 1. Patient characteristics at their first index date

<table>
<thead>
<tr>
<th>Age</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥80 yrs old</td>
<td>3,517 (1.6)</td>
</tr>
<tr>
<td>70-79 yrs old</td>
<td>14,200 (6.4)</td>
</tr>
<tr>
<td>60-69 yrs old</td>
<td>72,201 (32.4)</td>
</tr>
<tr>
<td>50-59 yrs old</td>
<td>40,078 (18.0)</td>
</tr>
<tr>
<td>40-49 yrs old</td>
<td>69,534 (31.2)</td>
</tr>
<tr>
<td>&lt;40 yrs old</td>
<td>80,889 (36.3)</td>
</tr>
</tbody>
</table>

• The lowest persistence after 12 months was observed in daily (22%) and monthly (19%) compared to other (quarterly/yearly) drugs (70%) with a 4-week grace period.

• Persistence declined further at 24 months to 7%, 5% and 31% for daily, monthly and other drugs, respectively.

• Persistence analysis with 4-, 8- and 12-week grace periods showed that patients are more persistent after 1 year for injectable than oral drugs (Table 2).

Table 2. Persistence after 1 year for different grace periods

<table>
<thead>
<tr>
<th>Administration interval</th>
<th>Oral</th>
<th>Injectable</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 weeks</td>
<td>27%</td>
<td>69%</td>
</tr>
<tr>
<td>8 weeks</td>
<td>44%</td>
<td>76%</td>
</tr>
<tr>
<td>12 weeks</td>
<td>61%</td>
<td>80%</td>
</tr>
</tbody>
</table>

• Compliance is the extent to which a patient acts in accordance with the prescribed administration interval and dosing regimen. Compliance measures the accumulation of time from treatment initiation to discontinuation of therapy.

• Compliance was quantified with Medical Possession Ratio (MPR) for a fixed time period (365 days) and was calculated as the number of days covered by the prescriptions during the year divided by 365.

• Compliance was higher with less frequent drugs, with 40% of patients complying with daily (70%) than with monthly (22%) or other (19%) drugs.

• Compliance was quantified with the Estimated Level of Compliance (ELCP) method, which determines the percentage of individuals remaining on therapy, i.e. refilling each subsequent prescription within the grace period (independent of the treatment regimen) at a given time.

• Treatment persistence was estimated per active substance and treatment regimen for 12 and 24 months with a 4-week grace period.

• Sensitivity analysis with grace periods of 8 and 12 weeks was performed.

• In this study, a patient was defined as persistent when:
  1. Refill prescription of the same drug regimen was within a permissible grace period from the end of the previous supply.
  2. The regimen interval (daily, weekly, monthly, etc) did not change for the follow-up prescription.

CONCLUSIONS

• Persistence and compliance to osteoporosis treatment are very low among women with PMO in Hungary.

• However, injectable or less frequently administered drugs have higher persistence and better compliance than oral or more frequently administered drugs.

• Main limitations of this study are: i) patients were considered to be non-persistent if switching treatment & ii) it was not possible to adjust for some important confounding factors, e.g. BMD T-scores, as this information was not available.

REFERENCES


DISCLOSURE

• This study was sponsored by Amgen (Europe) GmbH and Ghent University.

• M. Intorcia and E. Psachoulia are employees and shareholders of Amgen; P. Lakatos has received consulting, research and speaker fees and grants from many companies with drugs for bone diseases, including Amgen, B. Knight, Z. Lang and E. Tóth are employees of Healthware Ltd and conducted this research under contract to Amgen.