Healthcare Resource Utilization Burden of Patients with Hypoparathyroidism in the United States

Kathleen L. Deering, Pharm D, Patrick Loustau, MS, MA2, Michael D. Culler, PhD, Soraya Allas, MD, PhD, Bludnne Weiss, Pharm D, MS3, Danette Astolfi, MBA

METHODS

• Study Design: Non-interventional retrospective claims data analysis
• Data Source: HealthVerity closed claim medical and pharmacy database (Private Source 20) with 130 million covered lives
• Study Period: October 1, 2014 - December 31, 2019
• Study Population: Incident and prevalent patients identified with HP

Eligibility criteria were adapted from a study by Powers et al. (1) and defined under the guidance of clinicians experienced in treating patients with HP. Patients were continuously enrolled 1 year pre- and post-index.

Incident HP (reference group) - Patients having a claim for parathyroidectomy, complete or partial thyroidectomy, or neck dissection, followed by a claim with an HP diagnosis within 6 months of the procedure, with no HP diagnosis claim before the procedure and 6 months after the procedure

• Index date: Date of the last HP diagnosis claim diagnosis following the procedure

Prevalent HP - Patients having a claim for parathyroidectomy, complete or partial thyroidectomy, or neck dissection, followed by an HP diagnosis within 15 months later, and a second HP diagnosis claim at any subsequent time

• Index date: Date of the first qualifying HP diagnosis claim

CONCLUSIONS

• This study provides insights into the natural history of HP and the incremental burden of HP on the healthcare system

• The HP patient characteristics were consistent with previous reports (1, 3-6) in that the majority of HP patients were female with mean age consistent with peri- or post-menopause and treated in line with current treatment guidelines.

• During the follow-up periods, HP cohorts had a higher comorbidity burden, utilized more healthcare services, and sought more specialist care compared to the TPH cohort.

• The noted increased burden of inpatient and monitoring for renal disease in the prevalent HP cohort, the kidney could be considered a key target organ for therapeutic intervention.

• The strength of this study lies in the inclusion of the US HP population and the rigorous eligibility criteria for the identification of HP patients. Limitations that are common among cancer claims analysis studies also apply to this study.

• Future studies could examine the costs associated with HP and its complications.

RESULTS

• Of the 43,640 patients with a diagnosis claim for HP in the claims database during the study period, a total of 6,297 individuals met the inclusion criteria of the study and were further divided into three cohorts: incident HP (N=733), incident HP (N=485), and prevalent HP (N=118).

• The time between surgery and HP claim that qualified the patient for eligibility was 2.0 (1.7) months for the incident TPH cohort and 8.7 (3.3) months for the prevalent HP cohort, only 3.4% had a record of neck surgery in the year before the index (Table 1).

Table 1. Baseline Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Incident HP</th>
<th>Prevalent HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, Mean (SD)</td>
<td>53.3 (14.9)</td>
<td>53.2 (14.6)</td>
</tr>
<tr>
<td>Insurance type, n (%)</td>
<td>452 (58.5%)</td>
<td>742 (82.8%)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>206 (26.4%)</td>
<td>397 (28.3%)</td>
</tr>
<tr>
<td>Medicaid Advantage</td>
<td>87 (11.3%)</td>
<td>220 (15.1%)</td>
</tr>
<tr>
<td>Uninsured</td>
<td>41 (5.2%)</td>
<td>43 (2.9%)</td>
</tr>
<tr>
<td>Procedures, n (%)</td>
<td>289 (36.9%)</td>
<td>469 (37.1%)</td>
</tr>
<tr>
<td>Parathyroidectomy</td>
<td>286 (37.0%)</td>
<td>368 (28.2%)</td>
</tr>
<tr>
<td>Neck dissection</td>
<td>31 (1.9%)</td>
<td>332 (23.6%)</td>
</tr>
<tr>
<td>Thyroidectomy</td>
<td>446 (57.7%)</td>
<td>705 (50.2%)</td>
</tr>
</tbody>
</table>

Treatment Patterns

• Calcium was the most frequently used prescription vitamin D therapy, and PTH replacement therapy was prescribed for less than 5% of patients (Table 2).

Table 2. Treatment Patterns

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Incident HP</th>
<th>Prevalent HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence coils</td>
<td>65 (16.5%)</td>
<td>72 (27.7%)</td>
</tr>
</tbody>
</table>

Vitamin D* 103 (11.3%) 103 (14.4%) 52 (10.5%) |

PTH (Natpara®) 10 (0.6%) 14 (0.6%) 128 (5.8%) |

Teriparatide (Forte®) 1 (0.1%) 1 (0.1%) 11 (0.5%) |

Note: *Vitamin D includes ergocalciferol and cholecalciferol. |

REFERRERENCES


DISCLOSURES

Study was funded by Amolysa Pharma, PL, MSD, SA and BW are current employees of Amolysa Pharma. KLD is an employee of EPI-Q Inc., which received payment from Amolysa Pharma associated with the development and execution of this study. Poster presented at AMCP NEXUS 2021 Denver, CO. Oct. 18-21.