Real-world treatment patterns, health outcomes, and healthcare resource use among persons with hemophilia A

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Introduction

• Congenital hemophilia A (HA) is an inherited bleeding disorder that mostly affects males.1
• HA causes insufficient production of clotting factor VIII (FVIII) in the blood, resulting in poor clot formation.2
• About 33,000 individuals in the United States are thought to be living with hemophilia.3
• Life expectancy with HA is now nearly equivalent to those without HA in high-income countries, due to improved management and treatment.3
• As in the general population, HA also develop comorbidities, such as joint disease, heart disease, and cancer, with these conditions developing at earlier ages than the general population, which can complicate HA management.3
• There is currently a lack of published literature describing the aging HA population.
• Understanding the characteristics of the aging HA population is required to help inform appropriate management strategies that are unique to these individuals.
• This study examined real-world patient characteristics, treatment patterns, and outcomes among treated PAHA, according to their age.

Methods

This retrospective study used real-world data from a health plan database (Figure 1).

Figure 1. Study design.

- Data source: Humana Research Claims Database: data from 01/2007 to 07/2018

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Population

- Treated PAHA enrolled in commercial or Medicare Advantage Prescription Drug Plans managed using National Disease Management Programs (NDCP), and International Classification of Diseases codes (ICD), and Healthcare Cost and Utilization Project (HCUP) data, and International Classification of Diseases codes (ICD)
- Treatments included prophylaxis and on-demand FVIII therapy based on treatment patterns, desmopressin, or bypassing agents
- Patients were required to have 12-month continuous health plan enrollment after the index date

Compared by age group (<18, 18–55, >55 years of age)

- Treatment patterns (e.g. prophylaxis, on-demand desmopressin)
- Clinical outcomes (e.g. adhesion, monthly therapy)
- Healthcare resource use (e.g. inpatient hospitalization, emergency department use)

Results

Overall, 294 PAHA were included; 67 (23%) were <18 years old, 176 (60%) were 18–55 years, and 51 (17%) were >55 years (Table 1).

• The majority (59%) of patients were seen in a hemophilia treatment center (HTC).
• Of the 57 (33%) patients in whom the disease severity of HA was known, 57% had mild HA, the number of individuals classified as having severe or moderate HA was low.
• Overall, 91% of patients had ≤1 FVIII claim; the mean number of FVIII claims was highest among patients aged <18 years and lowest among those aged 55 years or older.

Table 1. Baseline patient demographics and characteristics.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Age category</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients (%)</td>
<td>&lt;18 years</td>
<td>18–55 years</td>
</tr>
<tr>
<td>Age (years)</td>
<td>17 (4.8)</td>
<td>20 (6.8)</td>
</tr>
<tr>
<td>Region (N = 294)</td>
<td>Midwest</td>
<td>West</td>
</tr>
<tr>
<td>Percentage of patients (%)</td>
<td>34%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Overall, the most common comorbidities were arthritis and hepatitis C, with prevalence increasing with age (Table 2).

Table 2. Patient comorbidities (occurring in ≥5% of overall population by age group).

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Age category</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of patients (%)</td>
<td>&lt;18 years</td>
<td>18–55 years</td>
</tr>
<tr>
<td>Arthritis</td>
<td>50%</td>
<td>60%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>COPD</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>EOC</td>
<td>2%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Overall, 494 patients had ≥1 inpatient hospitalization (≥1), and 143 patients had ≥1 emergency department visit (≥1) (Figure 2).

Conclusions

PAHA represent a medically complex group of patients.

- Treatment patterns, clinical outcomes, and healthcare resource use vary by age group.
- Prophylactic FVIII treatment was highest among pediatric patients and on-demand FVIII treatment was highest among adults.

Over older patients (≥55 years) had the highest comorbidity burden, on-demand treatment use, and bleeding events compared with younger age groups.

This sample reflects an older age distribution than those expected for the Prevention registry or included in the HTC Population Profile.

Insights on the association of age with outcomes and healthcare resource use for PAHA may help to identify opportunities for the improved management of older PAHA.

References

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2 Mannucci PM, Iacobelli M.8

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Poster #15

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In the 12-month post-index period, 21% of patients experienced ≥1 bleeding event, 41% had evidence of arthropathy, and 53% had pain (Figure 3).

- Bleeding events were most common in patients aged ≥55 years (33%) and <18 years (28%) and least common in patients aged 18–55 years (15%).
- The prevalence of arthropathy and related disorders, osteoarthritis, and pain generally increased with age.

Figure 3. Clinical outcomes by age group.

Overall, 15% of patients had ≥1 all-cause inpatient admission and 34% had an emergency department visit over the 12-month period.

Figure 4. Healthcare resource use by age group.

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