

Current use of Hereditary Angioedema (HAE) treatments in Sweden: An analysis of the national prescribed drug register

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Introduction

- Hereditary angioedema (HAE) is a rare, chronic, disease causing recurrent, unpredictable, and potentially life-threatening swelling episodes that most commonly affect the extremities, face, abdomen, genitals and larynx (1).
- While incurable, existing treatments include long- and short-term management, and on-demand options for attacks.
- In Sweden, 2 long-term prophylaxis (LTP) therapies for the treatment of HAE are

included in the high-cost coverage; lanadelumab and berotralstat. Lanadelumab and berotralstat are subsidized for patients with severe disease and at least 4 or 2 attacks of HAE per month, respectively.

- In line with Swedish treatment guidelines, patients with HAE, including those on LTP, are advised to keep two doses of on-demand medication readily accessible for managing acute attacks (2, 3).

Objective

- To examine the prevalence, incidence, and treatment patterns of HAE in Sweden since the introduction of new LTP treatments in late 2021.

Methods

- This study used data from the Swedish National Prescribed Drug Register (NPR).
- Data for patients with at least one dispensed HAE-specific treatment (Table 1) between January 2020 and December 2024 was extracted from the NPR.
- The individual patient-level data was analysed to identify starting, continuous and concomitant use of HAE treatments.
- Patients were considered on a specific treatment each year if they had collected at least one prescription of that treatment in that year.
- For all patients with LTP (Table 1) treatment, each dispense of a therapy that occurred on-demand after the first dispense of an LTP was identified and classified as concomitant use of on-demand therapy.

Results

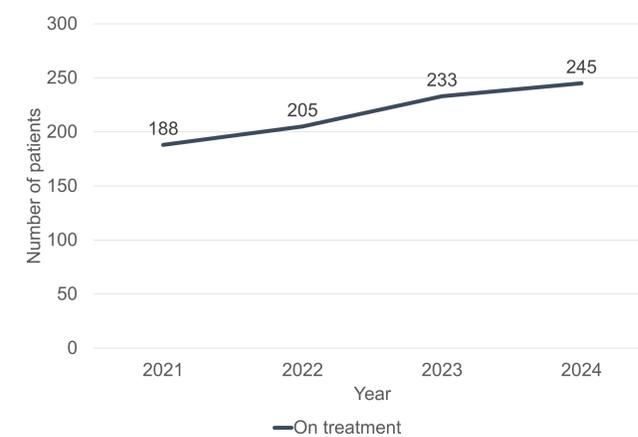
- The total number of patients treated for HAE increased from 188 to 245 patients between 2021 and 2024 (Figure 1).
- This corresponds to a prevalence and incidence rate of 2.31/100,000 and 0.36/100,000 in 2024, respectively (Figure 2).
- Of treatments with reimbursement for LTP, lanadelumab was the most frequently used in 2022 – 2024 (Figure 3).
- Icatibant was the most dispensed on-demand therapy use decreased from 2021 to 2024, suggesting improved disease management on LTPs over time (Figure 5).
- Icatibant was the most dispensed concomitant treatment to LTP, followed by C1-inhibitors (Berinert and Cinryze).
- After initiating LTP treatment, ~40% of patients were dispensed concomitant use of on-demand/short-term treatment at least at three separate occasions, while ~20% were dispensed at five or more occasions annually.
- Among patients on LTPs, the proportion of patients with concomitant on-demand therapy use decreased from 2021 to 2024, suggesting improved disease management on LTPs over time (Figure 5).

Table 1. Drugs included in the data excerpt

Display name	Anatomical Therapeutic Chemical (ATC)	Substance	Product subtype
Berinerter	B06AC01	C1-inhibitor, plasma derived	On-demand ¹
Cinryze	B06AC01	C1-inhibitor, plasma derived	On-demand ¹
Icatibant	B06AC02	Icatibant	On-demand
Takhyzo	B06AC05	Lanadelumab	LTP
Orladeyo	B06AC06	Berotralstat	LTP

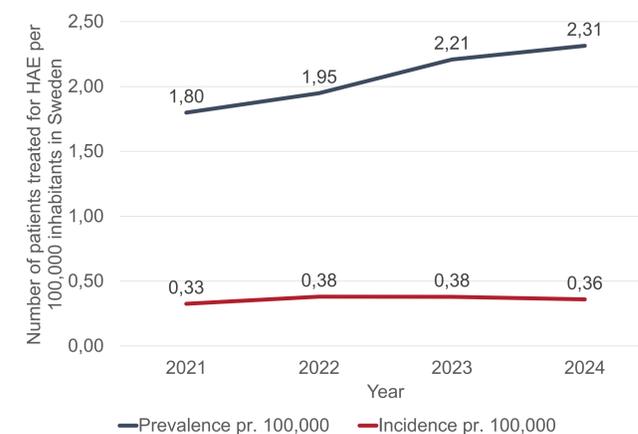
¹Although C1-INHs can be used as LTP, they are assumed to be used on-demand only, as they are 1) only investigated when being dispensed alongside an LTP, and 2) only reimbursed for on-demand use in Sweden.

Figure 1. Number of patients treated for HAE¹ from 2021 to 2024



¹Patients are considered on treatment for HAE each year if they have collected at least one prescription of any HAE-specific medication (ATC B06AC* with * indicating all subcodes, Table 1).

Figure 2. Prevalence and incidence of patients treated for HAE¹ from 2021 to 2024

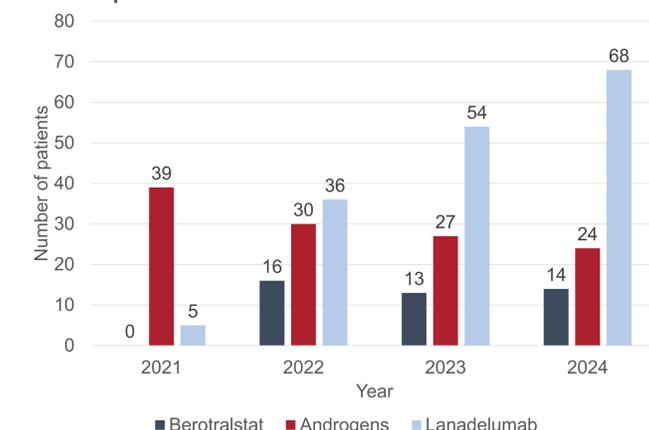


¹Patients are considered on treatment for HAE each year if they have collected at least one prescription of any HAE-specific medication (ATC B06AC* with * indicating all subcodes, Table 1).

Prevalence and incidence rates are calculated using population data from Statistics Sweden (4). Prevalence rates are based on the number of patients on any HAE treatment (Table 1) in the given year, excluding androgens.

Incidence rates are based on the number of new (naïve or incident) patients on any HAE treatment (Table 1) in the given year, excluding androgens.

Figure 3. Number of patients on LTPs¹ from 2021 to 2024 in total and per treatment



¹Androgens (A14AA08, oxandrolone, and G03XA01, danazol) are included, as they have historically been used for LTP treatment of HAE.

Figure 4. Number of patients on on-demand therapies from 2021 to 2024 in total and per treatment

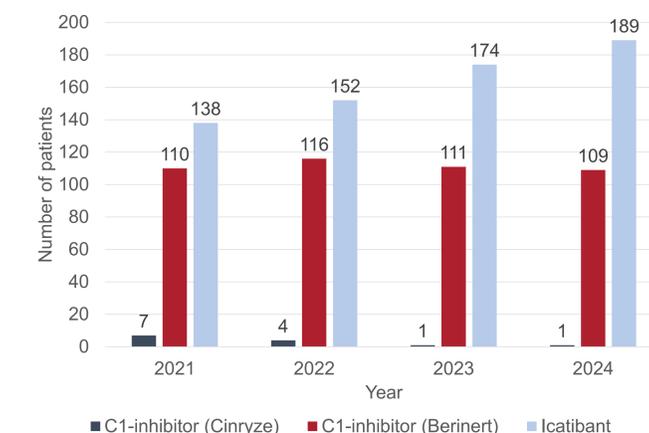
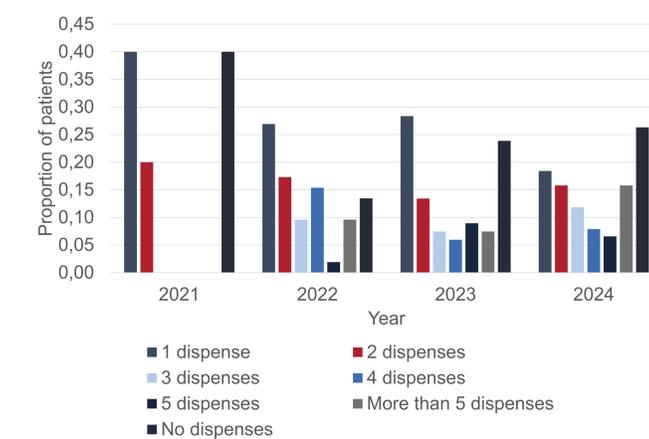


Figure 5. Proportion of patients on LTPs with concomitant on-demand therapy use per year from 2021 to 2024



Included medications are presented in Table 1.

CONCLUSIONS

- The observed prevalence of HAE in Sweden aligns with prior estimates; however, the incidence, when measured as number of new patients treated for HAE, is higher than what has been observed elsewhere (5).
- Despite having a more restrictive reimbursement criteria than berotralstat in Sweden, lanadelumab is the most prescribed LTP.
- The dispensing of on-demand/short-term treatment at least three times annually, indicates that a large share of Swedish patients potentially are not attack-free despite treatment with LTP.
- However, since the introduction of LTP, the use of on-demand therapies has decreased over time, suggesting improved disease control in many patients.

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Disclosures

LD, BA and VC are employees of Otsuka Pharma Scandinavia, Stockholm, Sweden. MT and CH are employees of Otsuka Pharmaceutical Europe Ltd., Windsor, United Kingdom. DSA and KA are employees of Reveal AB, Stockholm, Sweden

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