Delayed On-demand Treatment of Hereditary Angioedema Attacks and Associated Barriers Reported by Italian Patients

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Disclosures

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Background

- Hereditary angioedema (HAE) is characterized by unpredictable swelling attacks affecting mucosal and subcutaneous tissues, which are typically painful, debilitating, and potentially fatal
- WAO/EAACI guidelines recommend the early use of on-demand treatment following recognition of an HAE attack to reduce morbidity and prevent mortality[1-3]
- Despite the recommendation for early treatment, recent research suggests that patients delay on-demand treatment of their attacks[4]
- We assessed patient's time to treatment of their last attack along with identifying barriers contributing to treatment delay

1. Betschel S et al. *Allergy, Asthma & Clinical Immunology.* 2019/11/25 2019;15(1):72.; 2. Busse PJ et al. *J Allergy Clin Immunol Pract.* Jan 2021;9(1):132-150.e3.; 3. Maurer M et al. *Allergy.* Jul 2022;77(7):1961-1990.;
4. Radojicic C et al. *J Allergy Clini Immunol*, 151 (2): AB143

Methods

- Individuals with Type 1 or 2 HAE due to C1 inhibitor deficiency were recruited through the Italian Network for Hereditary and Acquired Angioedema (ITACA) between September 2023 and January 2024
- Respondents enrolled were ≥12 years old and had to have treated with an approved on-demand therapy ≥1 HAE attack within 3 months prior to the survey
- The survey was self-reported, and took respondents approximately 20 minutes to complete

Respondents Characteristics

	Total (n=56)	On-Demand Only (n=25)	On-Demand + LTP (n=31)	Adults (n=48)	Adolescents (n=8)
Current age (years; mean)	41	41	40	45	15
Age of diagnosis (years; mean)	17	21	14	19	8
Gender Male Female	 23 (41%) 33 (59%)	 10 (40%) 15 (60%)	 13 (42%) 18 (58%)	 18 (38%) 30 (63%)	 5 (63%) 3 (38%)
HAE Type Type I Type II	 51 (91%) 5 (9%)	 24 (96%) 1 (4%)	 27 (87%) 4 (13%)	 44 (92%) 4 (8%)	 7 (88%) 1 (13%)

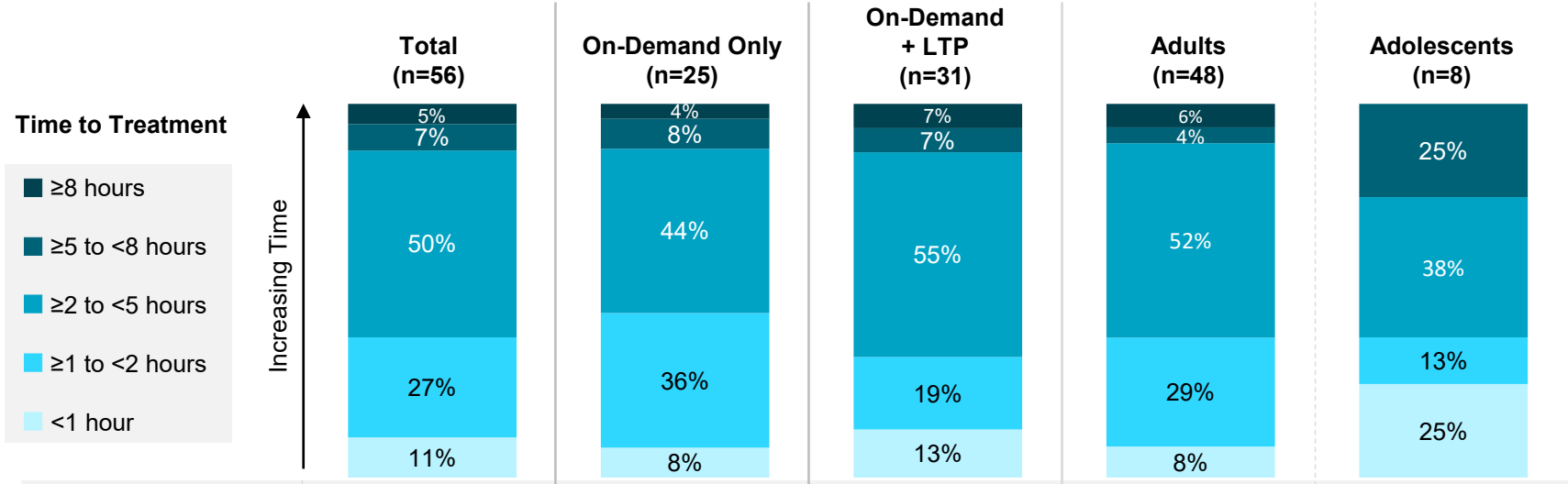
- This interim analysis included 56 respondents, including 48 adults and 8 adolescents (<18 years)
- 55% were receiving long-term prophylaxis (LTP) at the time of their most recent treated HAE attack

First On-Demand Treatment for Last Treated Attack

Treatment Used (n=56)		On-Demand Only (n=25)	On-Demand + LTP (n=31)	Adults (n=48)	Adolescents (n=8)
Icatibant (Firazyr and generic)	55%	44%	65%	63%	13%
Plasma derived C1 esterase inhibitor (Berinert)	43%	56%	32%	35%	88%
Plasma derived C1 esterase inhibitor (Cinryze)	2%	–	3%	2%	–
Recombinant C1 esterase inhibitor (Ruconest)	0%	–	–	–	–

- Most adults used icatibant for on-demand treatment for their last attack while most adolescents used plasma derived C1 esterase inhibitor

Time to On-Demand Treatment After Attack Onset

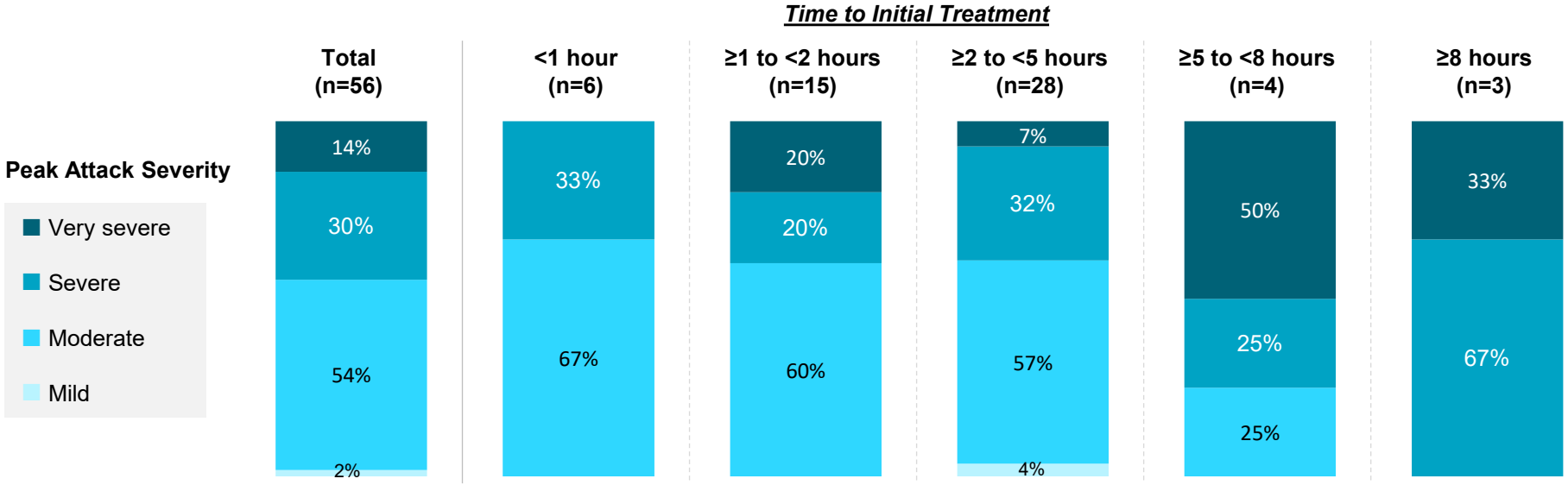


	Total (n=56)	On-Demand Only (n=25)	On-Demand + LTP (n=31)	Adults (n=48)	Adolescents (n=8)
Mean (SD) (hour)	2.8 (2.4)	2.5 (2.5)	3.0 (2.4)	2.7 (2.5)	2.9 (2.3)
Median (1Q, 3Q)	2.0 (1.0, 4.0)	2.0 (1.0, 3.0)	3.0 (1.0, 4.0)	2.0 (1.0, 3.5)	2.5 (0.9, 5.0)
Min-Max	0-12	0-12	0-10	0-12	0-6

Note: Values less than 5 percent are not labeled
Q33. After you first noticed the start of the attack, how much time passed until you treated the attack with on-demand treatment?

- The median time to treatment was 2 hours (interquartile range: 1-4) overall, but 3 hours for those receiving LTP and 2.5 hours for adolescents
- Only 11% of respondents (6/56) treated their attack in <1 hour

Peak Attack Severity by Time to Initial Treatment



Note: Values less than 5 percent are not labeled
Q31a. When the attack was at its most severe, how would you describe it?

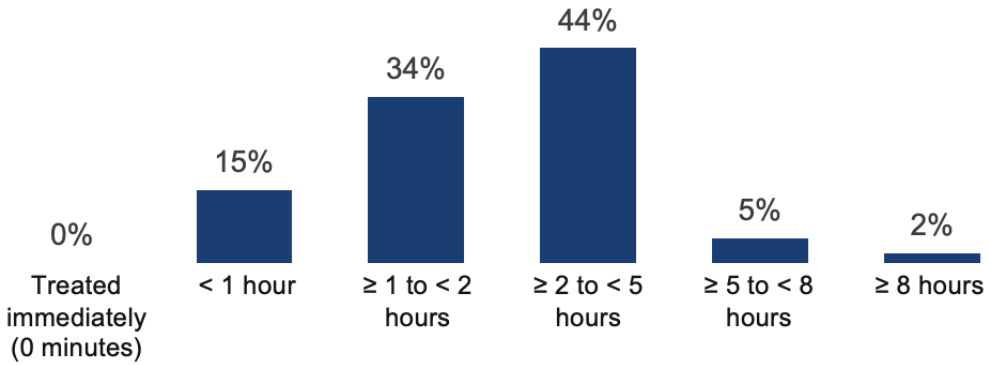
- Peak attack severity increased with time to initial treatment
- Only 33% of those who treated their attacks in less than 1 hour described their attack at peak as severe or very severe
- 40%, 39%, 75%, and 100% of those who treated within 1 to <2 hours, 2 to <5 hours, 5 to <8 hours, and 8 or more hours, respectively, reported the peak of their attack as severe or very severe

Perception of Time to Treatment as “Early” or “Not Early”

“I Treated the Attack Early”

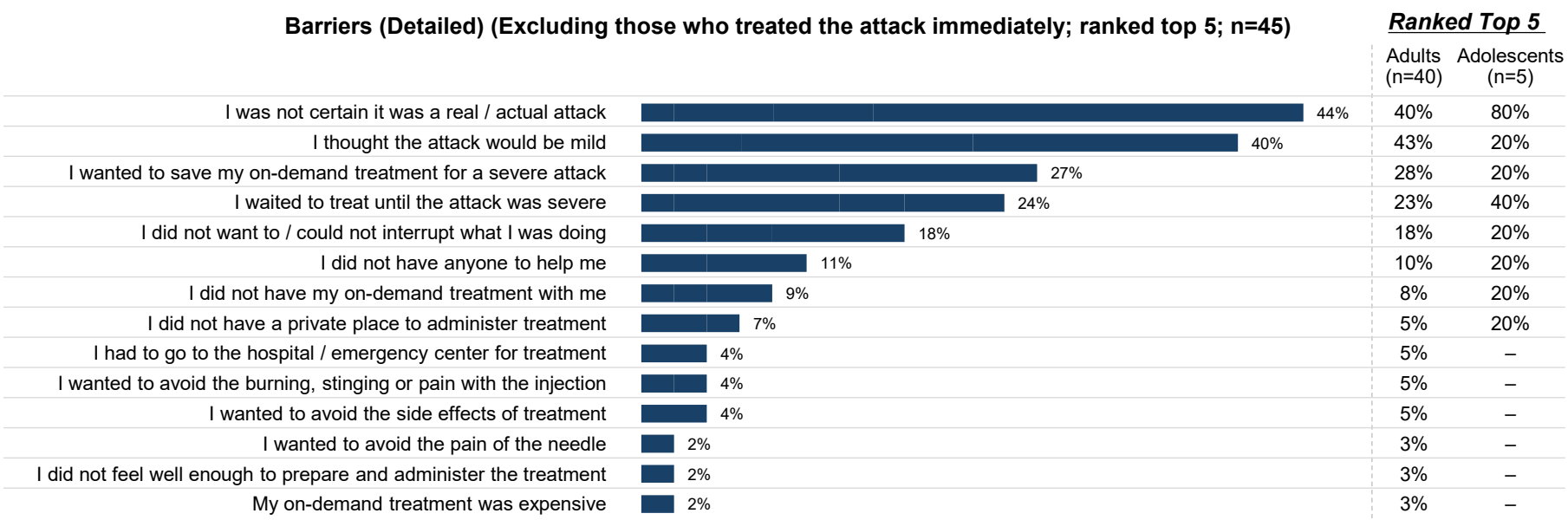
(n=41)

	Hours
Mean (SD)	2.2 (1.9)
Median (1Q 3Q)	2.0 (1.0, 3.0)
Min-Max	0-10



- 73% of respondents (41/56) believed they treated their attack early, despite only 15% of those respondents treating in less than one hour
  - The mean time to treatment for those who believed they treated early was 2.2 hours

Barriers to Treating HAE Attack Sooner



Q35. What prevented you from treating this HAE attack sooner with on-demand treatment? (Top 5 in order of importance)

- Forty-five respondents (80%) who reported that they did not treat their most recent attack immediately were asked to rank their top 5 reasons for not treating earlier
- Uncertainty that the attack was real (44%), thinking the attack was mild (40%), and wanting to save on-demand treatment (27%) were the most common barriers; treatment-related barriers included not wanting to interrupt what they were doing (18%), not having anyone to help (11%), and not having a private place to administer treatment (7%)

Conclusions

- Many respondents did not meet guideline recommendations for prompt on-demand treatment following HAE attack onset
- Those who delayed treatment were more likely to have severe/very severe attacks
- Uncertainty that the attack was real and thinking the attack was going to stay mild were the most common barriers to treating earlier
- Treatment related barriers included not wanting to interrupt what they were doing, not having anyone to help, and not having a private place to administer treatment
- These findings highlight a need to proactively address barriers contributing to treatment delays, including a need for oral on-demand treatment options, especially among adolescents