

Can young children swallow multiple coated mini-tablets?

Results from an open-label, single-dose crossover study

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Conclusions

- Children aged **6 months to 6 years** showed **acceptability derived from swallowability and palatability** for both high number of **2.0 mm** or low number of **2.5 mm** coated mini-tablets
- Use of coated mini-tablets in children **aged 1 to <6 months warrants careful consideration** due to differences in the development of swallowing capabilities in this age group
- **Coated mini-tablets** are potentially **suitable formulations** for **pediatric patients**

Figure 1. High acceptability rates based on swallowability criteria

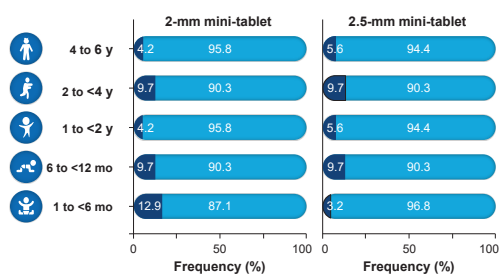


Figure 2. Positive palatability response based on child's physical reactions

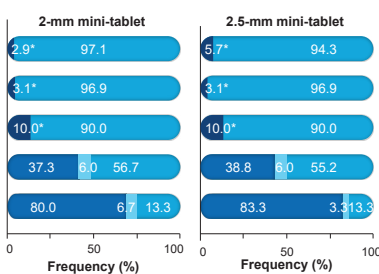
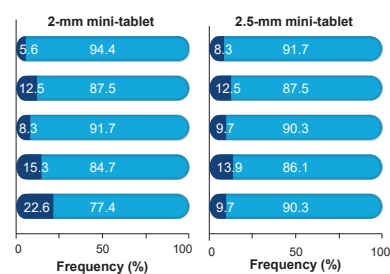


Figure 3. 'High' or 'good' acceptability measured as a composite endpoint



*Other category is a sum of 'neutral' and 'unpleasant' assessments; Neutral (2 mm, n=58; 2.5 mm, n=60); Unpleasant (2 mm, n=8; 2.5 mm, n=9).

Introduction

- The development of child-appropriate drug formulations can be challenging. Mini-tablets are advantageous over liquid formulations in overcoming challenges related to stability, taste, and dosage^{1,2}
- Iptacopan, an orally-administered proximal complement inhibitor that specifically binds factor B and inhibits the alternative complement pathway,³ is currently in development for complement-mediated diseases using capsule formulation in adults⁴
- Clinical studies are planned to evaluate efficacy and safety of iptacopan in adolescents and children

Study questions⁵

- Can children aged 1 month to 6 years swallow coated mini-tablets?
- Do children prefer to swallow several smaller (2 mm) mini-tablets or fewer larger (2.5 mm) mini-tablets?

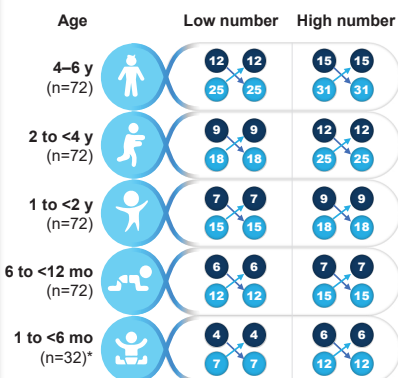
Formulation

- Drug-free coated mini-tablet formulation
- Mini-tablets were administered with soft food or a drink based on child's age and preference

Size	2.0 mm	2.5 mm
Weight	7.0 mg	14.0 mg
Simulated dose	2.3 mg	4.6 mg

Study design

- **Open-label, single-dose crossover study** in children stratified into 5 age groups (N=320 randomized)
- High or low numbers of **2 mm** or **2.5 mm** mini-tablets were tested and administered in the appropriate quantities in the respective age groups to meet the estimated dose based on body weight (note, fewer 2.5-mm mini-tablets were used)



*Recruitment of children aged <6 months was prematurely stopped as decided by the investigator owing to 'swallowing the wrong way/coughing' event in 3 children; values inside the circle denotes number of tablets.

- 2.5 mm tablets
- 2.0 mm tablets

Key assessments

Primary outcome

- **Acceptability derived from swallowability** scoring criteria (1, swallowed; 2, chewed/left over; 3, spat out; 4, choked on; and 5, refused to take)⁵
 - Acceptable = 'Yes': Swallowability score is 1 or 2; Acceptable = 'No': Swallowability score is 3-5

Secondary outcomes

- **Palatability (investigator-observed)**: Rated as 1 (pleasant) or 2 ('other'- sum of 'neutral' and 'unpleasant' assessments scored separately)⁵
- **Acceptability as a composite endpoint** derived from palatability and swallowability scores that were assessed separately⁵
 - Acceptable = 'Yes' (high or good acceptability); Acceptable = 'No' (low or no acceptability)
- **Safety**

Results

- **The acceptability rates based on swallowability: High and comparable** across tablet sizes, quantities, and age groups (averaged difference -0.3%; 90% CI, -2.0 to 1.4; P=0.757; **Figure 1**)
- **Palatability: Rated as 'pleasant' in majority of children** (except 1 to <6 months age) across all tablet sizes, quantities, and specified age groups (averaged difference 1.0%; 90% CI, -0.2 to 2.2; P=0.178; **Figure 2**)
- High proportion of 'neutral' reactions in children aged <1 year as per the developmental milestones with neutral body and mouth movements, and irregular face expression at this age
- **Acceptability as a composite endpoint: 'High' or 'good' acceptability**, represented as 'yes,' across all tablet sizes, quantities, and age groups (averaged difference -0.6%; 90% CI, -2.6 to 1.3; P=0.588; **Figure 3**)
- No adverse events or deaths were reported

Abbreviations

y, years; mo, months.

References

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Presenting author disclosure

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