

# Novel Sublingual Epinephrine Is Not Associated With a Diastolic Blood Pressure Dip

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**Sublingual epinephrine administration was not associated with the transient decrease in diastolic blood pressure often observed with intramuscular epinephrine**

## RESULTS

## KEY TAKEAWAYS

### Background & Objective

- Data analyzed from a pivotal, open-label, comparative study of sublingual vs intramuscular (IM) epinephrine
- Healthy adult subjects (N = 64)
- Single-dose sublingual epinephrine film administration

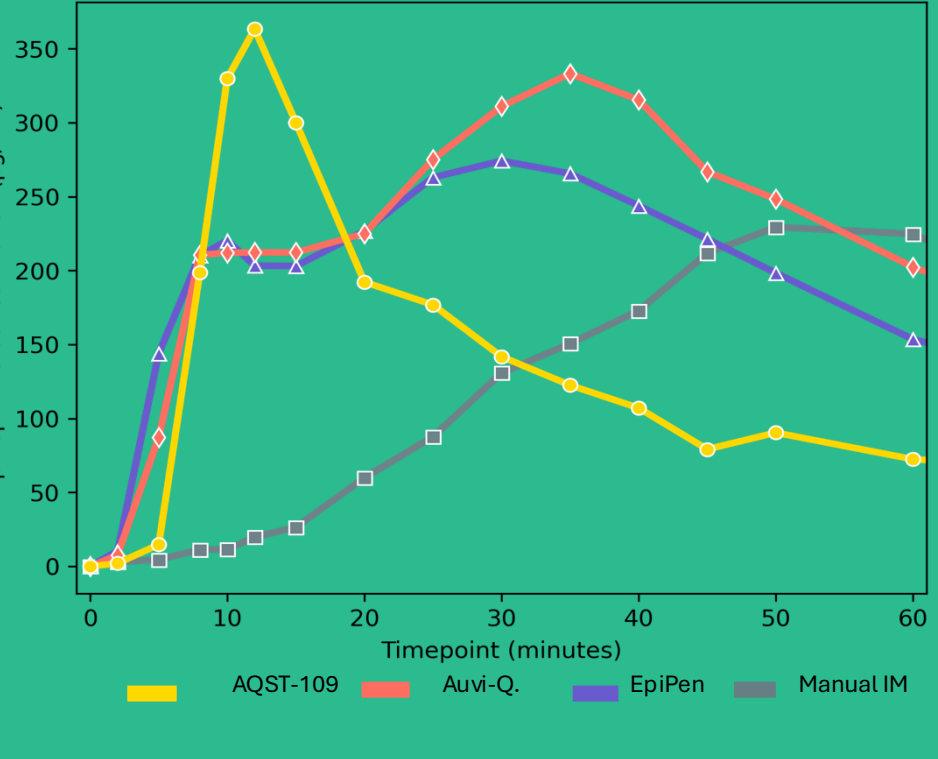
- The relationship between plasma epinephrine concentrations and hemodynamic responses was compared between sublingual and intramuscular epinephrine delivery

- Plasma epinephrine exposure following sublingual administration varies across individuals
- The relationship between epinephrine exposure and hemodynamic effects remains unclear

### Pharmacokinetics (PK)

- Plasma epinephrine concentrations measured post-dose and analyzed for maximum concentration (C<sub>max</sub>), time to maximum concentration (T<sub>max</sub>), and partial area under the concentration-time curves (pAUCs) *Data not shown*

- AQST-109 achieved a geometric mean (GM) C<sub>max</sub> of 470.2 pg/mL, comparable to EpiPen
- Median T<sub>max</sub> was 12 minutes, which occurred earlier when compared with IM epinephrine



- Time to peak plasma concentration for AQST-109 was faster than IM comparators

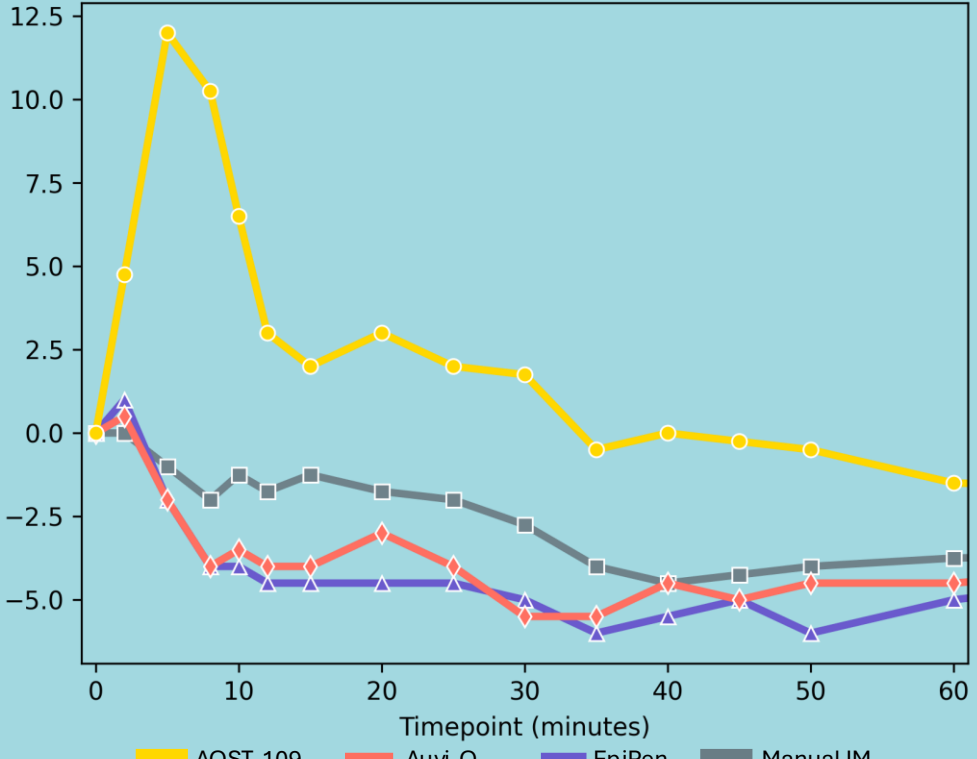
## INTRODUCTION

- Intramuscular epinephrine produces a characteristic transient diastolic blood pressure (DBP) dip.
- DBP is critical for maintaining coronary perfusion and mean arterial pressure (MAP) during distributive shock.
- The hemodynamic profile of sublingual epinephrine differs from intramuscular administration by increasing both systolic blood pressure (SBP), DBP and MAP

### Diastolic Blood Pressure

- DBP were measured concurrently with PK sampling
- Peak and time-matched changes from baseline were evaluated

- No transient DBP dip was observed following AQST-109 administration
- Mean DBP maximum effect (E<sub>max</sub>) was +13.2 at median time to maximum effect (T<sub>Emax</sub>) of 7 minutes



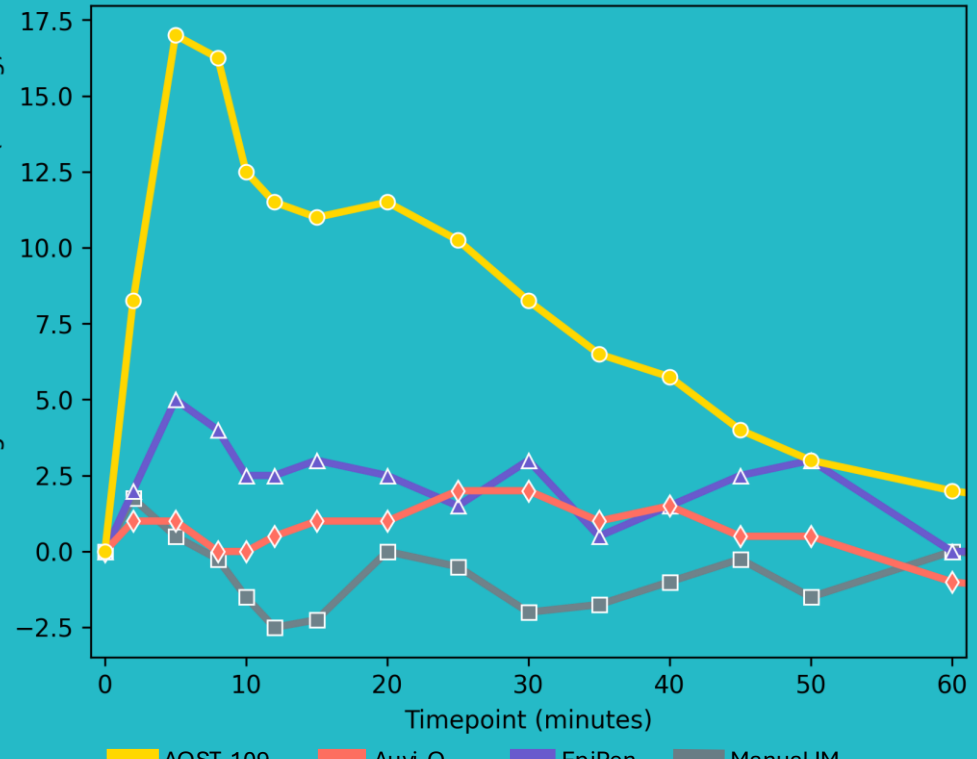
- At 5 minutes post-dose, median DBP had decreased in:
  - 3.1% of subjects receiving AQST-109
  - 62.3% receiving Auvi-Q
  - 60.3% receiving EpiPen
  - 58.1% receiving manual IM injection

- Median DBP remained below baseline for over 60 minutes, while sublingual epinephrine showed a transient DBP elevation for at least 30 minutes

### Systolic Blood Pressure

- SBP were measured concurrently with PK sampling
- Peak and time-matched changes from baseline evaluated

- Mean SBP E<sub>max</sub> for AQST-109: +23.9 mmHg
- AQST-109 SBP response occurred earlier when compared to IM epinephrine

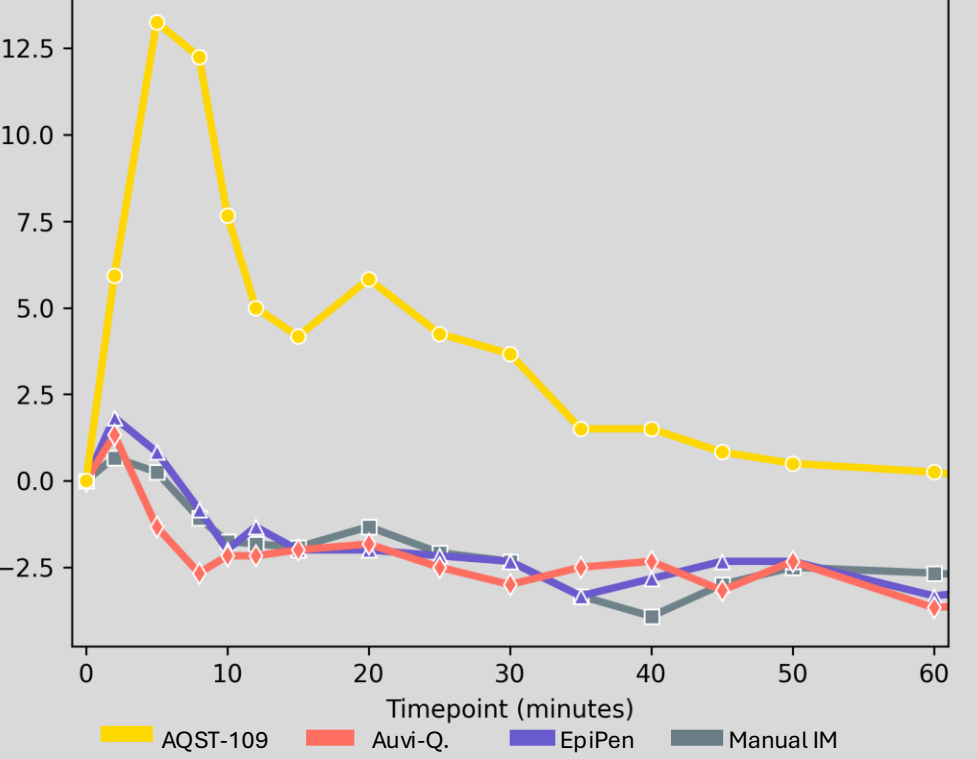


- Sublingual epinephrine produced rapid increases in median SBP, which gradually decline over 50 minutes

### Mean Arterial Pressure

- MAP were calculated from SBP and DBP measurements
- Baseline-corrected MAP changes assessed over time

- Mean MAP E<sub>max</sub> for AQST-109: +16.8 mmHg
- MAP was significantly higher compared with IM epinephrine

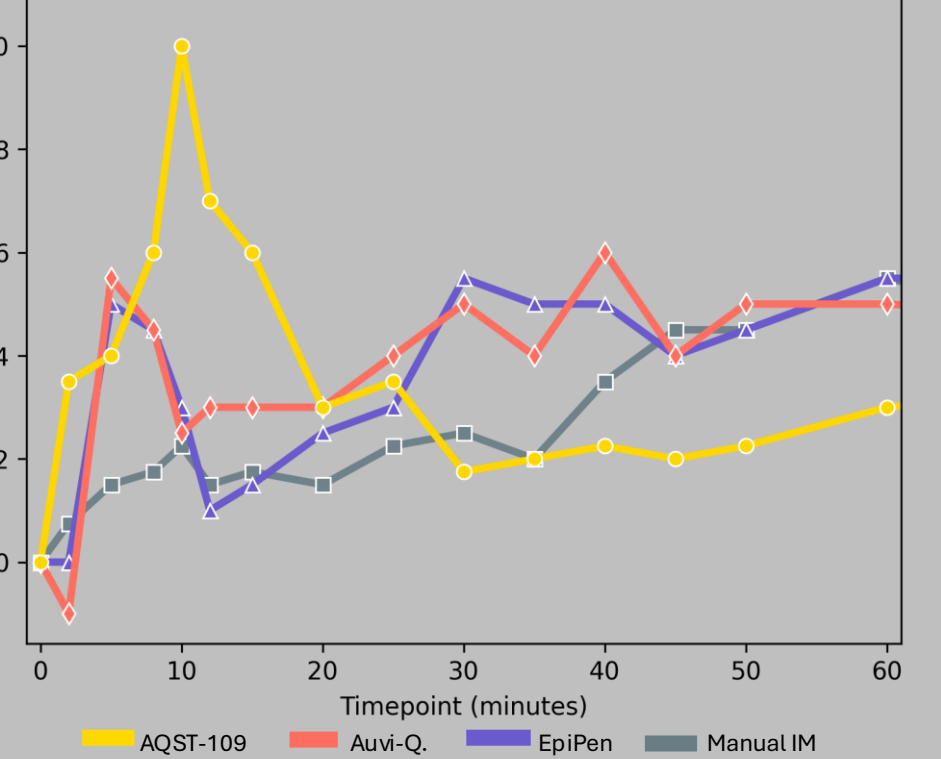


- MAP remained higher following sublingual epinephrine administration for up to 1 hour

### Heart Rate (HR)

- HR was measured concurrently with PK sampling
- Peak and time-matched changes from baseline evaluated

- Mean HR E<sub>max</sub> for AQST-109: +15.3 bpm
- HR responses occurred earlier compared with IM epinephrine



- Sublingual epinephrine produced rapid but transient increases in heart rate

## DISCLOSURES

1. GS, NC, and EK are/were employees at Aquestive Therapeutics.  
 2. DG has received consultant fees from Aquestive Therapeutics, ARS, Thermo Fisher, Orexo, Kokua, Novartis, Celldex, and Blueprint.  
 3. MG is employed by AAFA and has received consultant fees from Aquestive Therapeutics, DBV, Takeda, Novartis, ALK-Abello, Genentech, and Protta. He is a speaker for ARS and Genentech. He is an unpaid member of the scientific advisory council for National Peanut Board and the medical advisory board of the International Food Protein Induced Enterocolitis Syndrome Association. He serves as a member of the Brighton Collaboration Criteria Vaccine Anaphylaxis 2.0 working group and is the senior associate editor for the Annals of Allergy, Asthma, and Immunology.

## REFERENCE

AQST 109301 data on file, Aquestive Therapeutics, Inc.

## DISCLAIMER

This product candidate has not been approved for use by the FDA. Clinical performance, safety and use have not been established.

## ACKNOWLEDGMENTS

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