Anesthetic Management of Emergent Cesarean Delivery in a Patient with Hereditary Angioedema Type III

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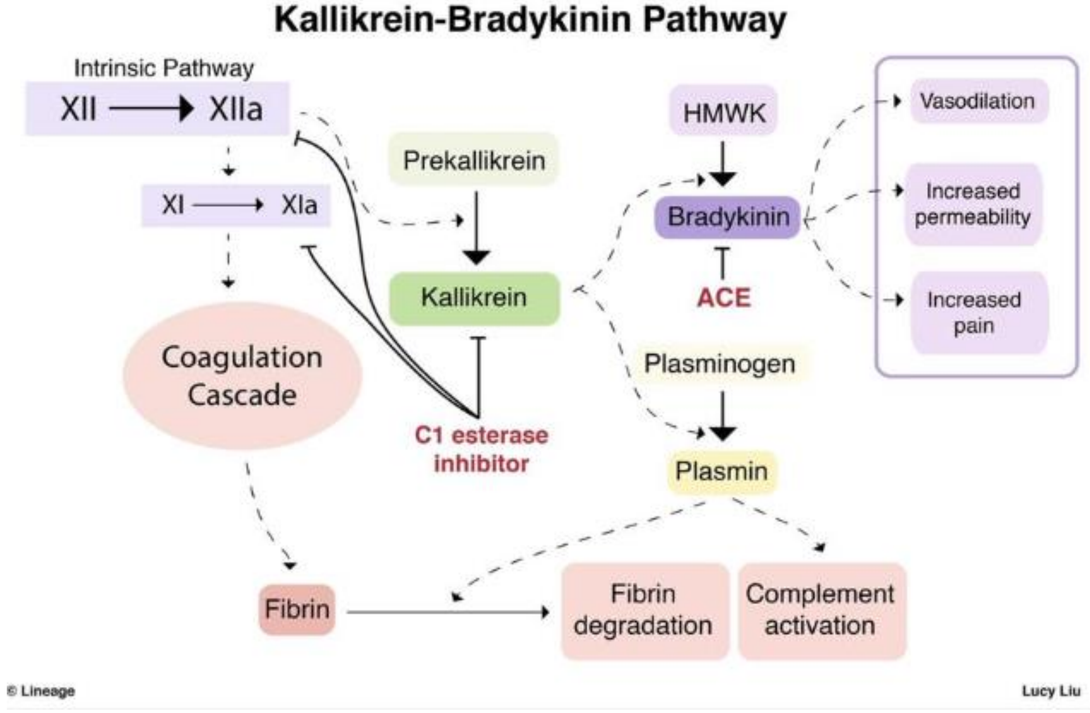
BACKGROUND

Hereditary angioedema is a rare genetic disorder with 3 subtypes that leads to excess bradykinin production.

Type III Hereditary Angioedema

Characteristics	Description
C1 Esterase Inhibitor Levels	Normal
Cause	Factor XII Mutation
Pathophysiology	Increased bradykinin production
Hormone	Estrogen-Dependent
Clinical Impact	↑ Vascular permeability → angioedema



CASE REPORT

28 YO G1P0, 31-weeks gestation, with history of type III hereditary angioedema

Relevant History	. Prior angioedema episodes presented with eye and lip swelling . Treated with C1-esterase inhibitor concentrate medication
Clinical Presentation	. Low lying placenta, vaginal bleeding, and concern for preterm labor and premature rupture of membranes (PPROM) . Pre-term labor managed with tocolysis . Treated with latency antibiotics, magnesium sulfate, and betamethasone . GOAL: Careful labor management and minimize surgical intervention to lower risk of angioedema . Limited availability of C1-esterase inhibitor concentrate medication availability in hospital

- 4 days admission: ↑ cramping, heavy vaginal bleeding, passage of blood clot, fetal malpresentation → Emergent cesarean delivery
- Anesthetic Plan: Combined spinal epidural anesthesia
- **Airway Caution:** Close monitoring of facial/airway swelling and difficult airway cart available in OR
- Successful delivery without complication

DISCUSSION

- Proper anesthetic and delivery planning for patients with hereditary angioedema type III is critical to achieve a safe and successful delivery
- The complexity of the case required:

Multidisciplinary Approach	•Obstetric and anesthesia team coordination •High-risk patient given prior history and no C1-esterase inhibitor medication availability
Anesthesia Considerations	•Neuraxial anesthesia •Avoid airway manipulation •Difficult airway equipment available
Monitoring and Safety	•Continuous airway and facial swelling monitoring •Preparation for rapid airway intervention

Citations available on request