

ANESTHETIC IMPLICATIONS OF HEREDITARY ANGIOEDEMA IN PREGNANCY

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Background:

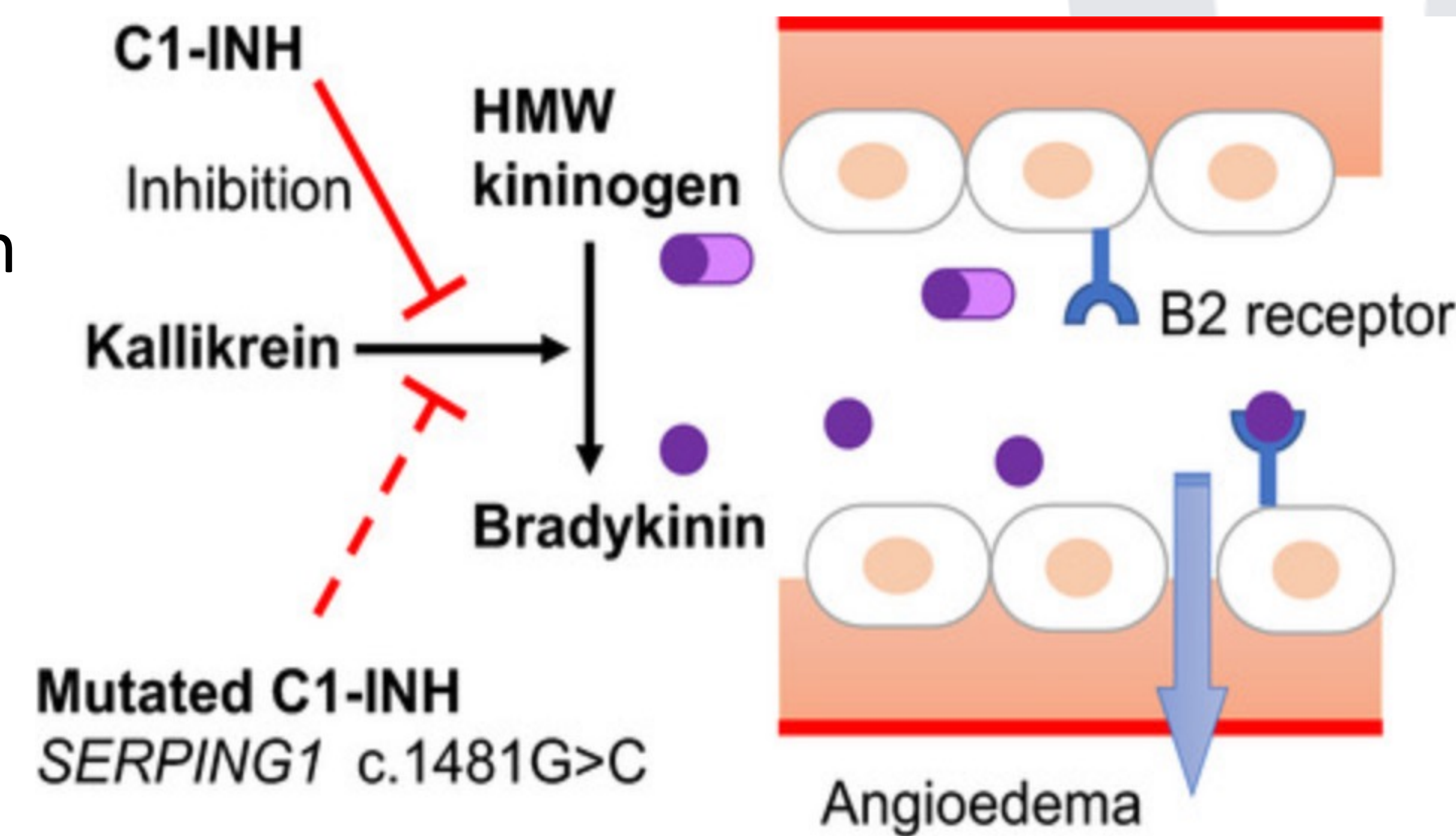
- ◉ Hereditary angioedema (HAE) = episodic angioedema of airway, skin, GI tract

- ◉ Pathophysiology

- SERPING1 gene mutation
- C1 esterase inhibitor (C1-INH) malfunction
- Bradykinin (BK) overproduction
- Angioedema

- ◉ Subtypes

- **Type 1** = deficient C1-INH
- **Type 2** = dysfunctional C1-INH



- ◉ Exacerbation triggers

- ★ Stress
- ★ Procedures
- ★ Estrogen



- ◉ Treatment

BK production inhibitors

BK receptor antagonists

Case:

32-year-old G3P1 woman with type 1 HAE C1-INH deficiency presents for delivery planning prior to scheduled rLTCS

Relevant PMH

HAE

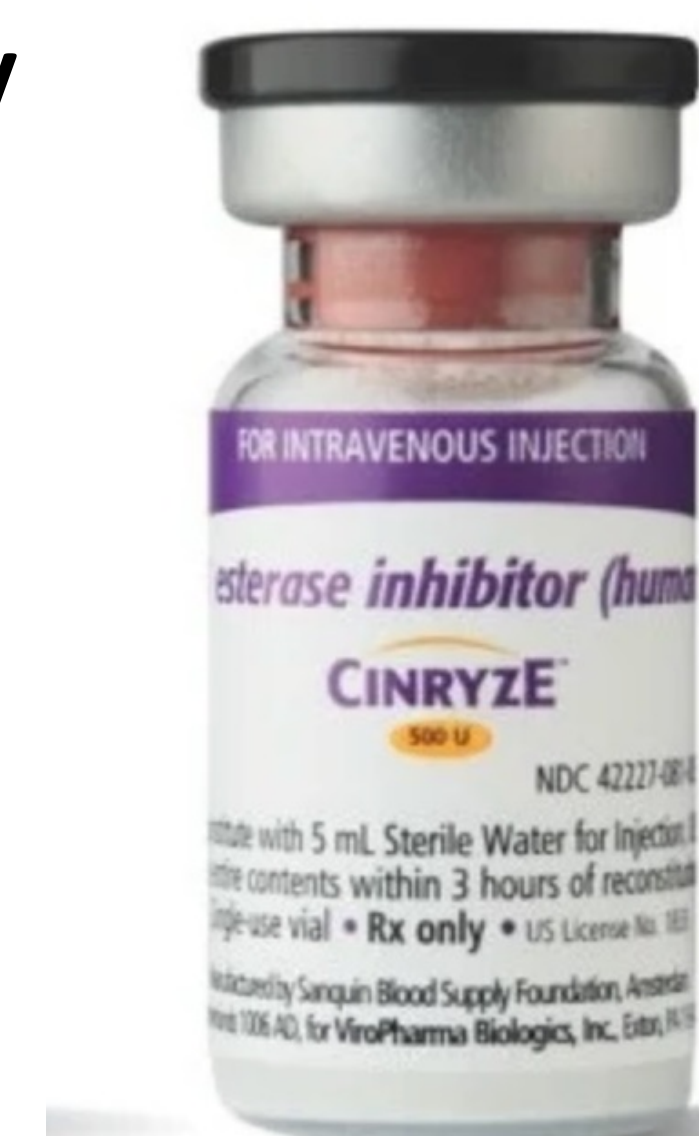
- Controlled on long-term ppx with **subq plasma-derived C1-INH**
- No hx of laryngeal edema

BMI 35



Peripartum planning

- Multidisciplinary coordination** - allergy/immunology, OB, anesthesiology
 - Shorts-term/pre-procedure ppx with **IV plasma-derived C1-INH**
 - Contingency management for acute exacerbation



LABOR ENCOUNTER

Admitted for planned rLTCS at 39w0d



IV plasma-derived C1-INH administered



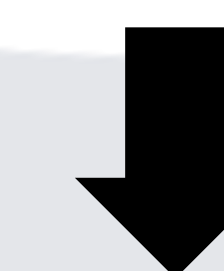
Uncomplicated CSE placed



Uneventful rLTSC



No evidence of acute HAE exacerbation



Discharged on POD#3

Discussion:

- HAE management in pregnancy

1. Subq and IV plasma-derived C1-INH
2. Rescue therapies
3. Skilled airway management

1. Subq and IV plasma-derived C1-INH

- Effective for **prophylaxis and acute exacerbation** treatment
- **Good maternal-fetal safety profiles**

2. Rescue therapies

- **BK B2 receptor antagonist** – pregnancy case reports only
- **FFP/TXA** – if no C1-INH or BK B2 receptor antagonist available
- **Antihistamines/epi** – if concern for histaminergic angioedema

3. Skilled airway management

- Pregnancy + HAE = **high risk for life-threatening airway**
- Fiberoptic, surgical airway and **skilled airway clinicians needed**

References:

1. *Obstet Med.* 2021;14(3):177-180.
2. *Immunol Allergy Clin North Am.* 2023;43(1):145-157.
3. *Obstet Gynecol Surv.* 2021;76(9):566-574.
4. *Front Med (Lausanne).* 2022;9:930403.
5. *StatPearls.* 2022. PMID: 29489144.