



Angioedema in the PACU Setting: A Rare Emergency

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Background

Angioedema – *What is it?*

Subcutaneous tissue swelling of the face, tongue, and upper airway, leading to an increased risk of airway compromise.

Histamine-Mediated

- Most common
- Allergic reaction
- Mast cells + basophil activation
- Faster onset
- More commonly associated with hypotension

Bradykinin-Mediated

- Hereditary
- Acquired C1-inhibitor deficiency
- ACE-inhibitor associated
- NSAID induced
- Increased vascular permeability

Etiologies of angioedema can also be split into acquired and hereditary causes. Acquired causes include allergic (histaminergic), drug-induced, and idiopathic, while hereditary causes include C1-inhibitor deficiency. Hereditary causes and specifically ACE-inhibitors induce bradykinin-mediated angioedema while histamine-mediated angioedema occurs after allergen exposure.

Case Presentation

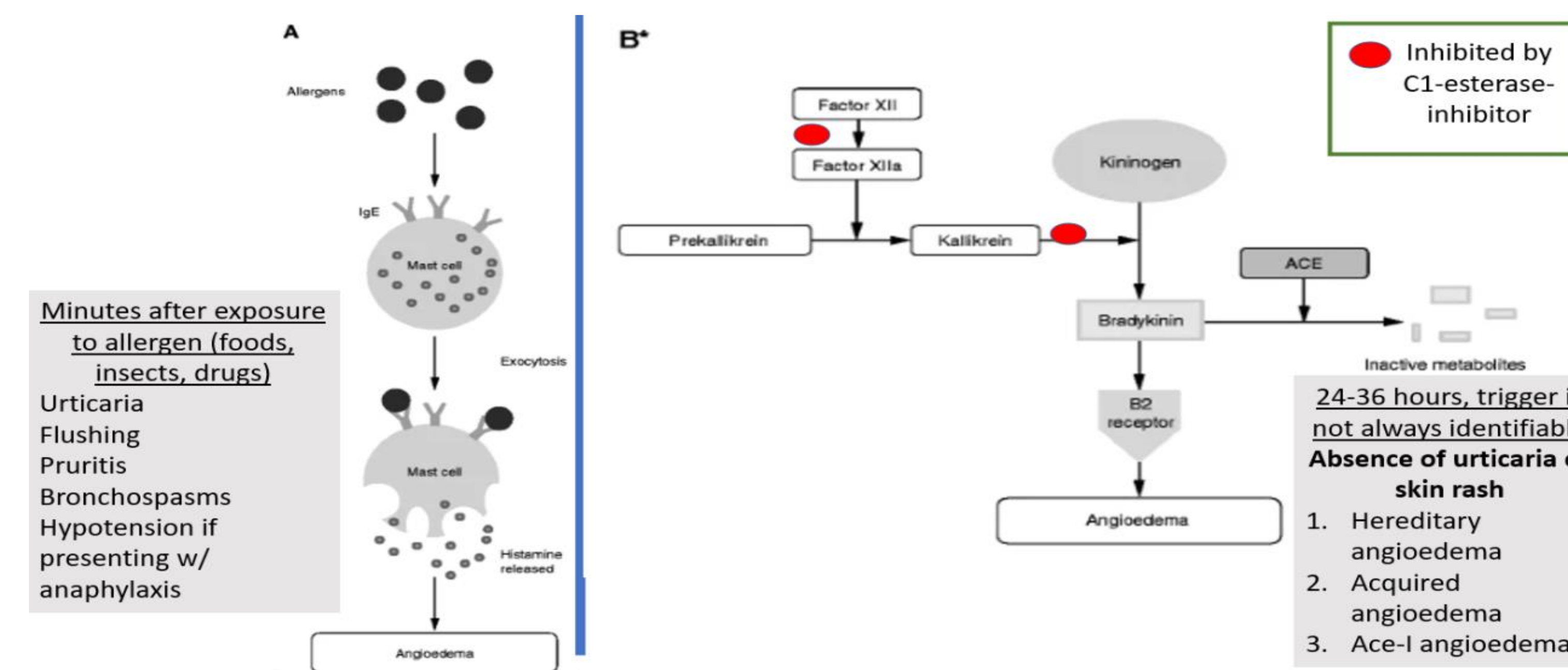
An 80 y/o male with PMHx of CAD, COPD, T2DM, HTN, CKD, and BPH presented with urinary retention in the setting of bladder cancer. He underwent a cystoscopy and TURBT under general anesthesia and was stable on arrival to PACU. Within an hour the patient was noted to be hypotensive with voice changes and severe swelling of the face and upper lip. He was urgently reintubated and started on propofol and phenylephrine drips. He received 8mg IV dexamethasone, 50mg IV diphenhydramine, and was transferred to SICU for ventilation requirements. Dexamethasone was continued at 10mg IV every 6 hours for 3 more doses and the patient was successfully extubated the following day. Of note, the patient underwent an uncomplicated TUBRT procedure under general anesthesia 1 month prior, with no medication changes since. The patient also had a previous episode of angioedema recorded 10 years earlier, at the time thought to be secondary to lisinopril use. He had not taken ACE inhibitors or ARBs since.

Discussion

ACE-inhibitors are the most common cause of drug-induced angioedema, but due to the patient's previous episode surrounding lisinopril use and subsequent avoidance this was an unlikely origin. Because of the abrupt onset and resolution within 24 hours after administration of steroids and antihistamines, this episode was likely histaminergic in nature.

There were multiple possible culprits, the most likely being Sugammadex, an agent used to reverse neuromuscular blockade. This drug was not used during the patient's uncomplicated surgery a month prior but was used in the most recent operation. Angioedema has been cited as an adverse effect of Sugammadex in the FDA Adverse Event Reporting System (FAERS).

Regardless of the inciting drug, the current management for histamine-mediated angioedema is airway management, followed by epinephrine, steroids, and antihistamines. This is a rapidly progressing emergency that requires timely recognition and treatment.



References

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