

Perioperative Anaphylaxis: A Case for Broader Monitoring of Non-Drug Allergens in High-Risk Patients

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Background

- Perioperative anaphylaxis is a rare but potentially life-threatening emergency
- While most reactions are attributed to antibiotics, neuromuscular blockers, or opioids, non-drug agents such as antiseptics and irrigation fluids can also trigger severe hypersensitivity
- Patients with extensive drug allergies are particularly challenging, as delayed or atypical presentations may obscure recognition of the true trigger.
- Early identification and management of allergic reactions are essential to prevent morbidity and mortality.

Case Presentation

A 46-year-old female with an extensive history of drug allergies—including iron, ceftriaxone, sulfa drugs, vancomycin, piperacillin-tazobactam, ciprofloxacin, and ertapenem—underwent cystectomy. Perioperative antibiotics included clindamycin and gentamicin. The intraoperative course remained stable until the end of the case, when the patient developed a diffuse, non-blanching rash on her torso and extremities. Systolic blood pressure dropped from 130s to 90s, with no wheezing or change in airway pressures. The delayed rash raised concern for a reaction to non-antibiotic exposures such as **povidone-iodine** or **chlorhexidine-based irrigation solution**. Treatment with epinephrine, diphenhydramine, and dexamethasone stabilized the patient. Arterial blood gas was normal. Tryptase rose from 34 ng/mL to 79.6 ng/mL at 24 hours. Antibiotics had been discontinued the day prior, making them the unlikely etiology. The patient was transferred to the ICU for observation and remained stable postoperatively.

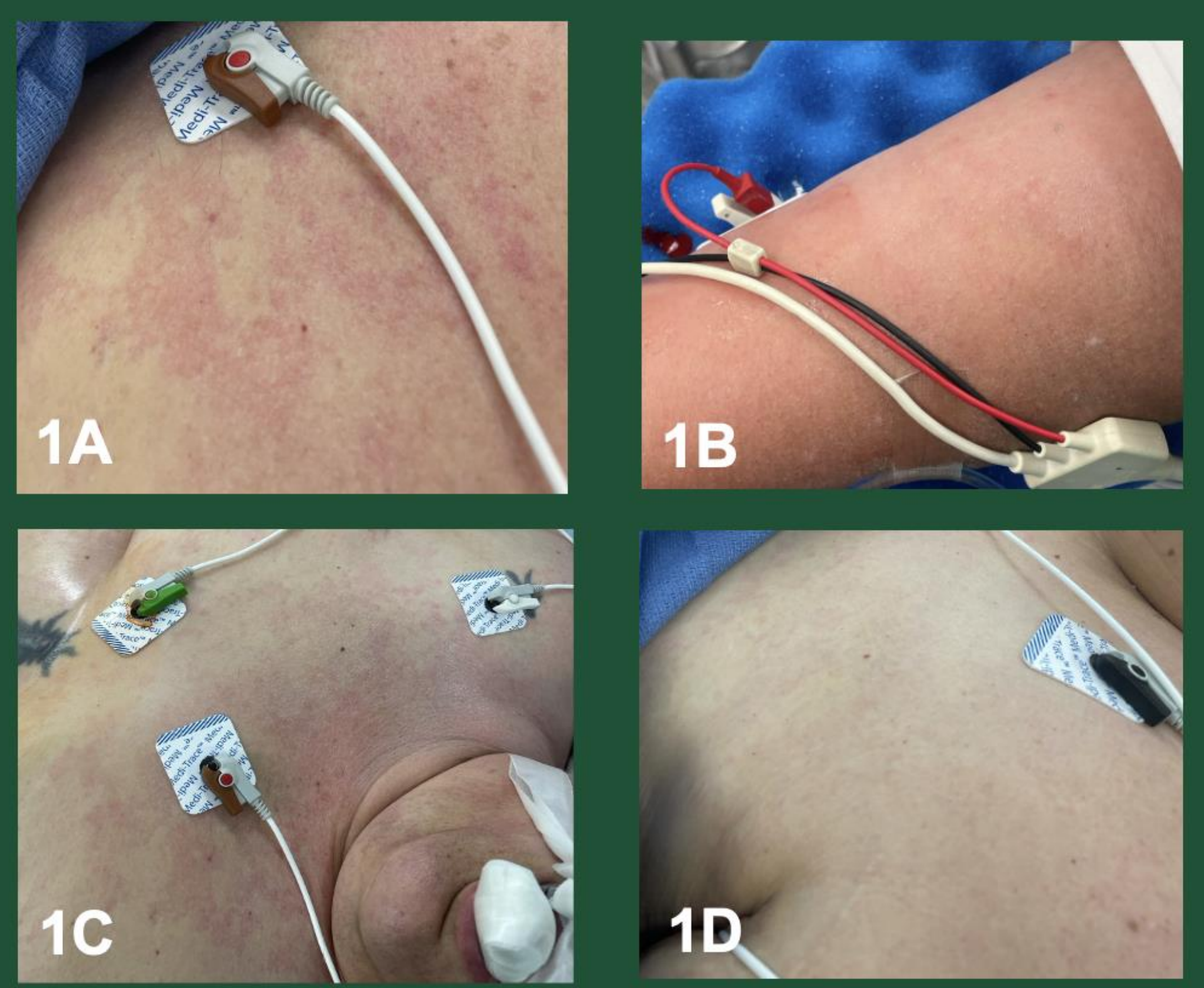


Figure 1: Rashes from the intraoperative allergic reaction. (A) Rash on the chest noted toward the end of surgery. (B) Rash on the arm noted toward the end of surgery. (C) Chest following initiation of treatment showing improvement. (D) Near-complete resolution of the chest rash after continued therapy.

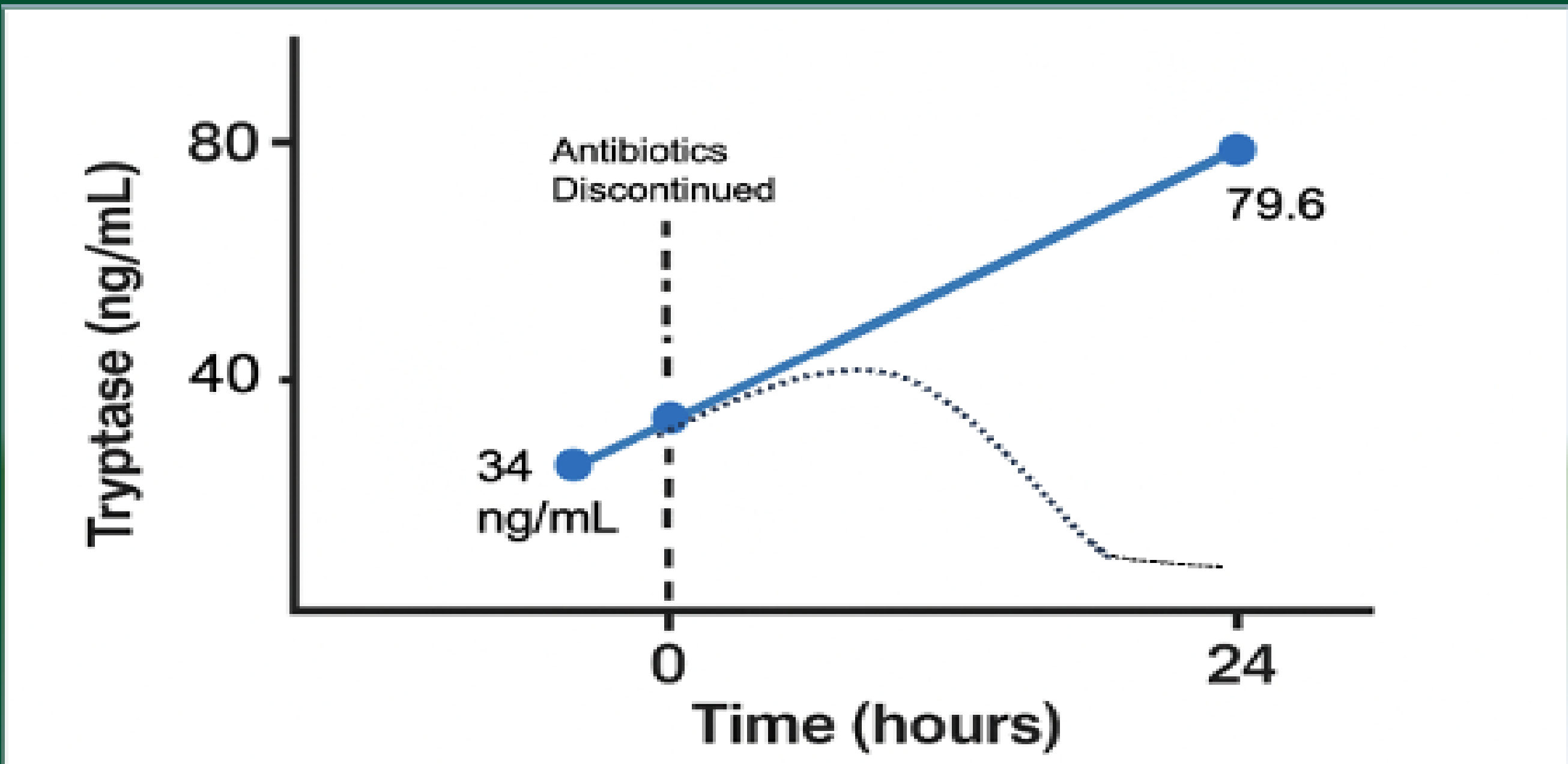


Figure 2: Timeline of serum tryptase levels showing continued elevation despite discontinuation of antibiotics.

Discussion

- Patients with multiple drug allergies require **heightened intraoperative vigilance** and awareness of possible **non-drug allergen exposures**
- Perioperative reactions to antiseptics or irrigation solutions are under-recognized**, as allergic responses are often attributed solely to medications.
- In this case, the reaction’s timing implicated either **povidone-iodine** or **chlorhexidine** as possible triggers.
- Prompt treatment with **epinephrine, antihistamines, and corticosteroids** likely prevented more severe progression.
- Persistently elevated **tryptase** levels 24 hours post-exposure may suggest either ongoing allergen exposure or a biphasic reaction.
- This case raises consideration for **ICU monitoring** following intraoperative anaphylaxis, even in apparently stable patients.
- Postoperative immunology referral** is essential to identify the trigger and guide future anesthetic and surgical planning.

Conclusion

- Consider non-drug allergens (e.g., Betadine, chlorhexidine) in the differential for perioperative anaphylaxis.
- Monitor tryptase trends to identify biphasic or persistent reactions.
- Admit high-risk patients for extended observation after intraoperative allergic events.
- Ensure multidisciplinary coordination and further allergy workup before future procedures to enhance patient safety.

References

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