Multimodal Management of Refractory Postoperative Pain in a Patient with Alpha-Gal Syndrome and Multiple Opioid Allergies

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Case

A 57-year-old woman with alpha-gal syndrome (AGS), chronic low back pain and cervical myelopathy underwent C3–C7 posterior decompression and fusion.

She reported multiple opioid allergies, including anaphylaxis, and intolerance of mammalian meat, dairy and gelatin capsules.

Perioperative course

- **Admission**
  Compounded gabapentin, baclofen and diazepam were not brought to the hospital.
- **Refractory postoperative pain**
  Pruritus without urticaria during hydromorphone patient-controlled analgesia.
- **Formulation review**
  Pharmacy assessed reported dairy and gelatin intolerance, selecting gelatin-free oral liquid hydromorphone to replace IV opioids.

Alpha-gal considerations



Adult lone star tick (Amblyomma americanum). Photograph: CDC.

AGS is an IgE-mediated allergy to galactose-α-1,3-galactose, associated with tick bites. Exposure can occur through mammalian foods and selected medical products. [1,3,4]

Food reactions are often delayed 2–6 hours; parenteral reactions may be immediate. Clinical sensitivity varies. [1,3]

Selected products requiring formulation review [1–3]

Product	Potential issue	Clinical consideration
Oral capsules	May contain gelatin	Verify excipients and alternative formulations.
Hydromorphone	Formulation-dependent excipients	Gelatin-free oral liquid used in this case.
Hemostatic agents	May contain gelatin or other mammalian components	Review the exact surgical product before use.
Heparin	Mammalian-derived product	Individualize perioperative risk assessment.

Clinical implications

Individualize formulation selection

Pharmacy review should assess dairy and prior medication tolerance. Dairy tolerance often accompanies oral gelatin tolerance; each formulation still requires review. This patient's reported dairy and gelatin intolerance guided excipient review. [5]

Monitor adjunctive analgesia

Intravenous (IV) lidocaine, used off-label, moderately improved pain. It was stopped at a supratherapeutic serum level of 13.6 mcg/mL without serious toxicity. IV orphenadrine was added for spasms.

Clarify the reported allergy

The mechanism of the reported opioid reactions was not established. At discharge, she was referred for allergy evaluation to distinguish active-drug allergy from excipient hypersensitivity. [2]

Gelatin-free does not guarantee tolerance. [1,2]

Single case report; IRB-exempt per accepted abstract.
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