The Selection of a Steroid for Epidural Steroid Injection in a Patient with Alpha-Gal Syndrome



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Alpha-gal Syndrome: An Overview

- Allergy to mammalian meat and mammalian-derived products
- Caused by bites from the lone star tick
- The body forms an IgE antibody to galactose-alpha-1,3-galactose[1]
- Reactions range from nausea to pruritus to anaphylaxis[1]
- Some medications and products that can cause reactions include heart valves, heparin, enoxaparin, and infliximab[2]

Patient Summary

- 61-year-old female with a history of alpha-gal syndrome
- She developed left lower extremity pain after getting her foot stuck in a ladder
- Other symptoms included lower extremity numbness and tingling in addition to lumbar back pain
- The pain progressed and severely impacted her quality of life and ability to perform her activities of daily living

Initial Management

- X-ray of the left tibia and fibula: negative
- Physical therapy: ineffective
- Medication management: ineffective
- MRI of the lumbar spine: left lateral disc extrusion of L4-5 with L5 nerve root impingement and neuroforaminal stenosis of the left L5-S1 nerve root
- Patient had failed conservative management -> time to trial epidural steroid injection

Pain Clinic Interventions

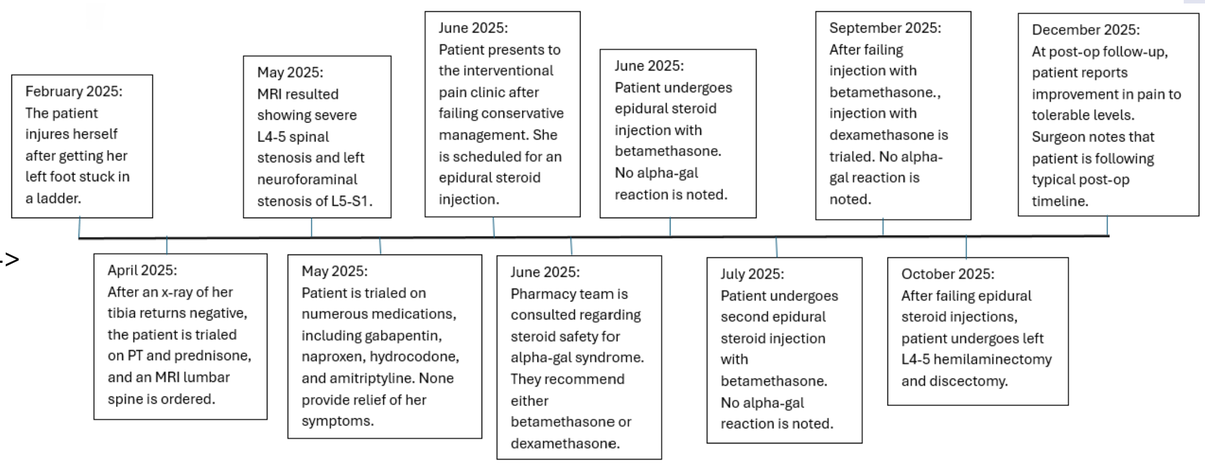
- Given the rarity of alpha-gal syndrome, it was unclear which, if any, steroids would be safe for the patient
- Consult made to the pharmacy team for their recommendations
- First round of injections: used betamethasone, no alpha-gal reaction, but little pain relief
- Second round of injections: used dexamethasone, no alpha-gal reaction, mild pain relief
- Referred to orthopedics and underwent left L4-5 hemilaminectomy and discectomy with improvement in pain and function

Contents of Steroids Available in the Interventional Pain Clinic

Medication	Single Dose Vial	Multi-dose Vial	Contains Preservative	Potential Mammalian Compound
Betamethasone sodium phos and betamethasone acetate (Celestone) 30 mg/5 mL	No	Yes	Yes, Benzalkonium Chloride	No known compounds documented
Dexamethasone 10 mg/mL	Yes	No	No	No known compounds documented
Triamcinolone acetonide susp 40 mg/mL	Yes	No	Yes, Benzyl Alcohol	Yes, Polysorbate 80^

^ Teva U.S. Generic Medicine states that their triamcinolone acetonide product listed above does not contain any "ingredients derived from animal or human origin."

Timeline of events



Discussion

- Alpha-gal syndrome can significantly alter a patient's treatment course
- Assess not only the medication itself, but also elements such as preservatives to ensure an alpha-gal reaction does not occur
- The patient tolerated the betamethasone and dexamethasone injections without a reaction
  - But patients with alpha-gal syndrome may react differently to the same medication[4]
- The manufacturing process depends on the company, so medications from different companies may have differing ingredients[5]

Conclusion

- Patients with alpha-gal syndrome require careful consideration before proceeding with medications or procedures
- Cross-reference a manufacturer's package insert with a list of common alpha-gal syndrome reaction-inducing ingredients
- If still concerned, consider contacting the manufacturer directly
- Thoroughly discuss the risks and benefits of new medications or medical products in patients with alpha-gal syndrome

References

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