

## INTRODUCTION:

- Galactose- $\alpha$ -1,3-galactose (alpha-gal) allergy is an IgE-mediated reaction to mammalian meat and dairy, with symptoms typically developing 3 to 6 hours after ingestion.
- Alpha-gal allergy with isolated gastrointestinal (GI) symptoms (abdominal pain, diarrhea, vomiting) without urticaria or anaphylaxis has been described.

## CASE:

- A 49-year-old male presented to GI clinic with years of episodic cramping abdominal pain and 4-6 diarrheal stools daily.
- Workup unrevealing and patient diagnosed with IBS.
- Serum alpha-gal IgE level was found to be elevated at 0.27 kU/L (reference range, < 0.1 kU/L) after the patient reported past tick bites.
- The patient stopped eating mammalian meat and symptoms improved but continued. He further excluded gelatin in the form of gummy bears, dairy, and carrageenan, which led to near resolution of symptoms.
- Self-challenging with foods that have small amounts of alpha gal resulted in severe abdominal cramping.



Figure 1: *Amblyomma Americanum*, the Lone Star tick

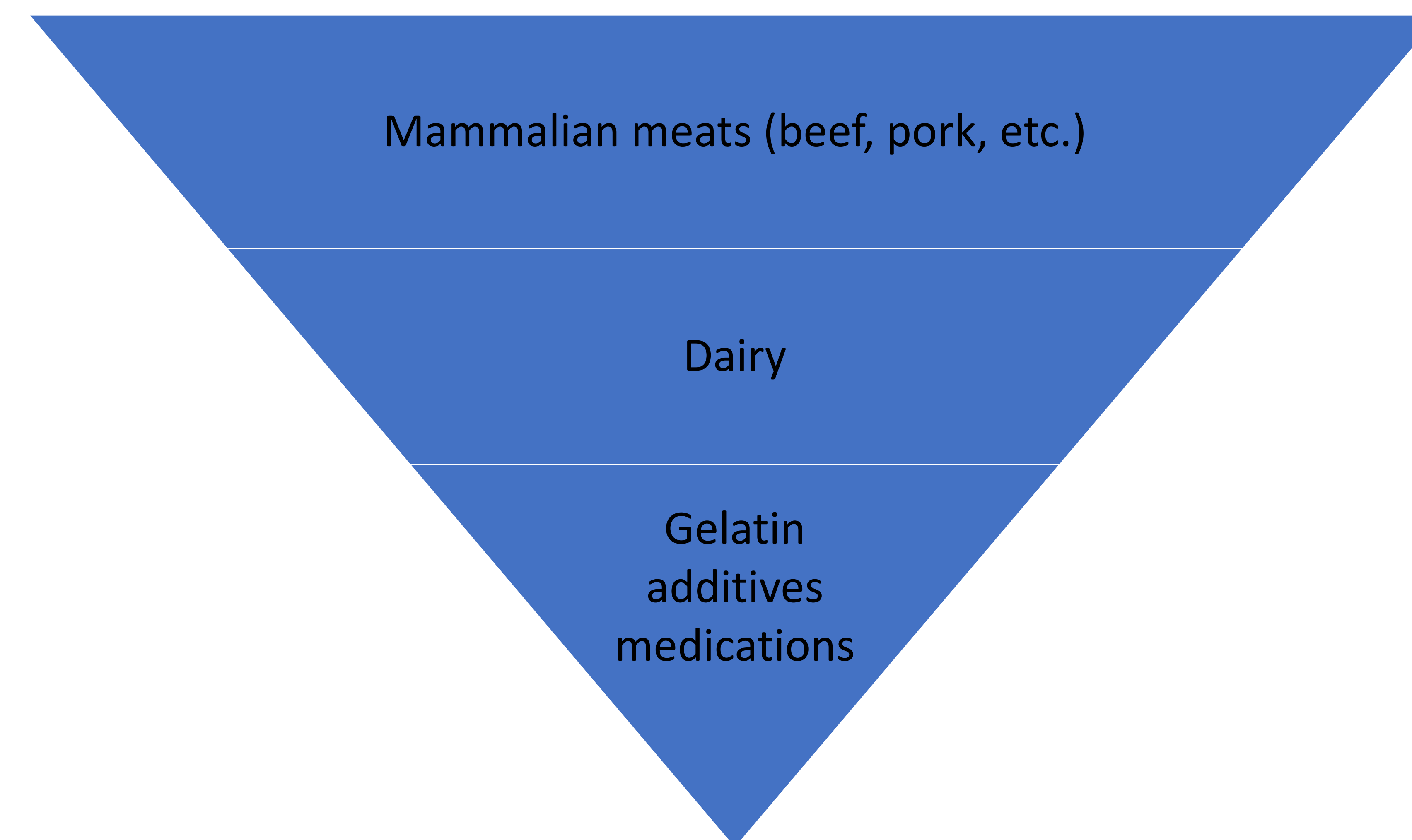


Figure 2: A stepwise approach to eliminating alpha gal from the diet

## DISCUSSION:

- The diagnosis of GI alpha-gal syndrome can be challenging because of delayed onset of symptoms after eating mammalian products, nonspecific GI complaints on presentation, and overlap with preexisting GI diseases.
- While sensitization is believed to be caused by a bite from the Lone Star tick, not all patients report a history of tick bites.
- Further studies are needed to better characterize GI alpha gal, but two cohort studies found that ~75% of patients improved on a diet free of mammalian products.<sup>1,2</sup>
- A stepwise approach is recommended, starting with mammalian meat, then dairy, and then gelatin, gelatin capsules, and mammalian food additives if symptoms persist.
- Our patient experienced improvement in symptoms with elimination of mammalian meat from his diet, but full resolution with elimination of all alpha-gal, particularly gelatin and carrageenan.

## KEY POINTS

- Alpha gal can present as isolated GI symptoms
- Onset can be delayed by up to 6 hours
- A stepwise approach of eliminating alpha gal from the diet is recommended for treatment
- This case highlights the importance of a thorough history, increased awareness of foods containing alpha-gal, and the need for future prospective studies for improving early recognition and treatment of GI alpha gal.

## References:

- McGill SK, Richards RD, Jr., Commins SP. Suddenly Steakless: A Gastroenterologist's Guide to Managing Alpha-Gal Allergy. *Am J Gastroenterol*. Jun 1 2022;117(6):822-826. doi:10.14309/ajg.0000000000001765
- Richards NE, Richards RD, Jr. Alpha-Gal Allergy as a Cause of Intestinal Symptoms in a Gastroenterology Community Practice. *South Med J*. Mar 2021;114(3):169-173. doi:10.14423/SMJ.0000000000001223