

Alpha-Gal Syndrome (AGS)



WHAT IS IT?

Alpha-Gal Syndrome (AGS) is named for the sugar molecule, Galctose-alpha-1,3-galactose (Alpha-Gal) which all mammals, except primates (including humans), carry. When a lone star tick feeds on an infected mammal (e.g., a deer), ingests the molecule, then bites a human, it transmits AGS to the person. In sensitive individuals, this causes the immune system to produce antibodies to fight the perceived threat posed by the sugar, which triggers the release of histamines causing an allergic reaction to consumption of all mammalian meats and products. It is estimated that up to 450,000 people in the US may be affected.

WHY SHOULD I CARE?

- After an Alpha-Gal-sensitive individual consumes meat, the allergic reaction can be delayed up to 10 hours, making detection and treatment challenging.
- The relative rarity of AGS cases and lack of awareness among clinicians also make its diagnosis difficult.
- The first reported human death from AGS in the US was linked to the onset of anaphylaxis in a man in New Jersey after he ate a hamburger.
- Climate change has expanded the range of lone star ticks northward, beyond Southern US states where they were typically more prevalent.

SIGNS & SYMPTOMS

Symptoms can range from hives, sneezing, stomach pain/nausea, vomiting, diarrhea, and shortness of breath to life-threatening anaphylaxis which may occur in up to 50% of cases.



WHAT DO I DO ABOUT IT?

1. Individuals who are sensitive to Alpha-Gal must completely avoid red meats or other products from red meat mammals. These include beef, pork, lamb, venison, goat, and rabbit.
2. Take care to avoid tick bites by avoiding grassy or wooded areas where the ticks can persist
3. Use approved insecticides (0.5% permethrin containing) active against ticks. The EPA has a list of useful insect repellants. Make sure to use them according to label directions.
4. After coming in from outside, check clothing and your body for ticks. They can also be carried on pets, so examine them carefully as well.
5. If AGS is suspected, the affected person should seek emergency medical care.

TAG Public Health Experts have the experience and expertise to help companies and institutions successfully integrate science-driven public health approaches into their business strategy.