



ALPHA-GAL SYNDROME

What is Alpha-gal Syndrome?

Alpha-gal Syndrome (AGS), also called tick bite meat allergy or alpha-gal allergy, is a potentially life-threatening allergic reaction to the alpha-gal sugar molecule found in many mammalian products. Alpha-gal allergic reactions can occur after exposure to:

- Mammalian meat, organs, and blood including beef, pork, lamb, venison, rabbit, and goat.
- Dairy products, gelatin, and other foods derived from mammals
 - Drugs, medical and surgical products, and personal care products including pills with gelatin capsules, some vaccines, gummy vitamins, and mouthwash. Talk to your health care provider before taking a new medication or vaccine.
- Flounder eggs.

Note: This is not an exhaustive list and not all patients with AGS have reactions to every single product containing alpha-gal.

How is Alpha-gal Syndrome spread?

The alpha-gal sugar is found in all mammals except humans, apes, and Old-World monkeys. The alpha-gal allergy is associated with the bite of the Lone star tick (*Amblyomma americanum*), which is the most prevalent tick species in Delaware. It is hypothesized that when a Lone-star tick feeds on the blood of a mammal with this sugar and then bites a human, the tick can send the alpha-gal sugar into a person's body, causing an allergic reaction.

Who gets Alpha-gal Syndrome?

Since the Lone star tick is the most prevalent tick in Delaware, Delaware residents may be at high risk for AGS. The Centers for Disease Control and Prevention (CDC) reports that while people in all age groups can develop AGS, most cases are reported in adults.

What are the symptoms of Alpha-Gal Syndrome?

Symptoms of AGS can include hives or itchy rash, nausea or vomiting, heartburn or indigestion, diarrhea, cough, shortness of breath, difficulty breathing, drop in blood pressure, swelling of the lips, throat, tongue, or eyelids, dizziness or faintness, severe stomach pain, and/or anaphylaxis. Reactions can be different from person-to-person and range from mild to life-threatening.



Frequently Asked Questions

How soon do symptoms occur?

Unlike other food allergies where reactions occur within minutes of consuming the product, AGS reactions usually occur two to 10 hours after eating, often in the middle of the night.

How is Alpha-gal syndrome diagnosed?

AGS is diagnosed by an allergist or health care provider through a detailed patient history, physical exam, and a blood test that looks for alpha-gal antibodies. In populations with high exposure to Lone star ticks, like in Delaware, AGS should be ruled out in cases of unexplained gastrointestinal symptoms, recurrent anaphylaxis, urticaria, and angioedema. However, since AGS reactions often occur hours after eating, many patients fail to mention exposure to a tick and physicians fail to recognize food as a potential trigger. Thus, AGS remains an underdiagnosed condition.

What is the treatment for Alpha-gal Syndrome?

If you have AGS, you will need to work with your health care provider or allergist to determine what foods and products to avoid.

What can a person or community do to prevent the spread of Alpha-gal Syndrome?

The most important way to prevent your chances of developing AGS is to prevent tick bites:

- Wear light-colored clothing when outdoors.
- Tuck pant legs into socks so ticks cannot crawl up the inside of the pants.
- Use Environmental Protection Agency (EPA) registered insect repellents containing DEET, picaridin, or oil of lemon eucalyptus (OLE).
- Treat clothing and gear with products containing 0.5% permethrin. Permethrin can be used to treat boots, clothing, and camping gear and it remains protective through several washings. Alternatively, you can buy permethrin-treated clothing and gear.
- When outdoors, stay on the center of trails. Ticks crawl on the tips of grasses and shrubs and crawl on people and animals when they brush against the vegetation.

Resources

Centers for Disease Control and Prevention, <https://www.cdc.gov/ticks/alpha-gal/index.html>

Alpha-gal Syndrome Information, <https://alphagalinformation.org/what-is-ags/>

Office of Infectious Disease Epidemiology
24/7 Emergency Contact Number: 1-888-295-5156