Alpha-gal Syndrome

Indiana Department of Health | Infectious Disease Epidemiology & Prevention Division

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What is alpha-gal syndrome?

Alpha-gal syndrome (AGS) is a serious potentially life-threatening allergic condition that can occur after a tick bite. AGS is also called alpha-gal allergy, red meat allergy, or tick bite meat allergy. Alpha-gal (galactose-α-1,3-galactose) is a sugar molecule found in most mammals.

Alpha-gal syndrome is not caused by infection. AGS symptoms occur after people eat red meat or are exposed to other products containing alpha-gal. Alpha-gal is not found in fish, reptiles, birds, or people. Alpha-gal can be found in meat (pork, beef, rabbit, lamb, venison, etc.) as well as cow's milk, and milk products. Non-food products made from mammals (including glycerin, heparin, magnesium stearate, additives to specific vaccines, heart valves from pigs or cows, monoclonal antibodies, and certain antivenoms) may contain alpha-gal.

A CDC report showed that between 2010 and 2022, more than 110,000 suspected cases of AGS were identified. However, this number might be underestimated due to it not being a nationally notifiable disease. Alpha-gal syndrome is not a state-reportable condition in Indiana.

Is alpha-gal syndrome associated with tick bites?

Yes, alpha-gal syndrome (AGS) is associated with tick bites. Evidence suggests that AGS is primarily associated with the bite of a lone star tick in the United States, but other kinds of ticks have not been ruled out. Other tick species have been connected with the development of AGS in other countries. Visit the Indiana Department of health (IDOH) tick prevention page for more information.

How is alpha-gal syndrome diagnosed and treated?

A diagnosis of alpha-gal syndrome is multi-faceted. A healthcare provider may diagnose AGS by:

- Performing a physical examination
- Collecting a detailed patient history
- Ordering testing for antibodies to alpha-gal

Alpha-gal syndrome should be managed under the care of an allergist or other healthcare provider. Most healthcare providers recommend patients diagnosed with AGS stop eating meat from mammals. Not all patients with AGS have reactions to every ingredient containing alpha-gal. Patients should work with their healthcare provider to understand which products containing alpha-gal they will need to avoid.

Who can get alpha-gal syndrome?

Anyone can get alpha-gal syndrome (AGS). Most reported cases of AGS in the United States are among people living in the South, East, and Central United States. While people in all age groups can develop AGS, most cases have been reported in adults.

AGS reactions can include general allergic reactions such as:

- Hives, itching, or itchy, scaly skin
- Swelling of the lips, face, tongue, throat, or other body parts
- Wheezing or shortness of breath
- Stomach pain, diarrhea, upset stomach or vomiting

AGS can be severe, and even life-threatening. **Seek immediate emergency case if you are having a severe allergic reaction**. Emerging, lifesaving medications containing alpha-gal should not be withheld. Providers should be prepared to manage potential allergic response/anaphylaxis. Individualized care decisions may be required.

Patients who have AGS are encouraged to wear a medical bracelet and have an identification alert card for Emergency Medical Services (EMS).

More Information

For more information on alpha-gal syndrome, visit CDC alpha-gal syndrome.

For information on products that may contain alpha-gal scan the QR code.