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What is acquired red meat allergy?

Acquired red meat allergy is an allergy to certain types of meat caused by the bite of a lone star tick. The allergy involves a carbohydrate known as Galactose-alpha-1,3-galactose (also known as Alpha-gal). This carbohydrate is found in mammalian meat (i.e., red meat) products such as beef, pork, venison, and lamb. In some people, the allergy is limited only to beef or other meats that have a high fat content. Alpha-gal is also found in protein powder, dairy products, gelatin and the cancer drug Cetuximab; allergy to these products has also been reported.

Who can get acquired red meat allergy?

A small percentage of the people who have been bitten by a lone star tick can develop the allergy. Both adults and children are susceptible.

What are the symptoms of acquired red meat allergy?

The allergy can manifest as hives, angiodema (swelling of skin and tissue), gastrointestinal upset, diarrhea, stuffy or runny nose, sneezing, headaches, a drop in blood pressure, and in certain individuals, anaphylaxis.

How soon after ingestion of meat do symptoms appear?

Allergic reaction typically occurs between four and eight hours after consuming red meat. This delay in allergic reaction is unusual because most food allergies occur immediately after consumption of the offending food.

How is acquired red meat allergy caused?

This allergy can be acquired when a person is bitten by a lone star tick. The alpha-gal carbohydrate is found in the tick's saliva, which is injected into a person's skin during the tick's feeding. In response, the person's body will then release immunoglobulin E antibodies to combat the foreign substance's presence. Later on, the person's immune system may mount an attack after red meat is eaten and the Alpha-gal carbohydrate is digested.

How is acquired red meat allergy diagnosed?

A physician or allergist is able to diagnose acquired red meat allergy by performing a blood test, and sending the blood sample to a laboratory for testing.

How is acquired red meat allergy treated?

There is no cure for this allergy, but persons suffering from non-life-threatening allergic reactions

can be treated with over the counter antihistamines. If the reaction is severe, such as low blood pressure or anaphylaxis, a visit to the nearest emergency room is imperative where a dosage of epinephrine may need to be administered.

How can acquired red meat allergy be prevented?

The acquired red meat allergy can be prevented by avoiding exposure to lone star ticks. Lone star ticks are the most common tick species to bite people in Virginia. If the person has a history of acquired red meat allergy, then all mammalian meats should be avoided. In some individuals, the allergy will diminish over time, particularly if there are no further exposures to lone star tick bites.

How should a tick be removed?

Remove attached ticks as soon as possible. Most tick borne disease transmission occurs once ticks have been attached for longer than 24 hours. Use fine-tipped tweezers to grab the tick as close to the head as possible (i.e., as near to the skin as possible) and exert a steady pull until the tick lets go. Do not jerk or twist the tick out, or squeeze, or rupture the tick's body when removing it. The species identity of a tick will provide important clues as to what types of diseases it might carry, so you may want to save the tick for identification by placing it in a jar or plastic bag. You may freeze the tick or add alcohol to preserve it so that it can be easily identified.

How can I learn more about acquired red meat allergy?

- If you have concerns about acquired red meat allergy, contact your healthcare provider.
- Call your local health department. A directory of local health departments is located at the [VDH Local Health Districts page](#).

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