Tick-Borne Condition Alpha-Gal: Info on It & for Those with Alpha-Gal

Lone Star Ticks. Photo Credit: James Occi, (PhD cand.) LDA Scientific & Professional Advisory Board

Alpha-gal is a sugar molecule found in most mammals (not people, apes, monkeys) and in products made from mammals including medications, vaccines, cosmetics, gelatin and milk products. It is not normally found in fish, reptiles or birds. Alpha gal is also found in some types of ticks. Click here for CDC website on Alpha-gal

What is known is that Alpha-gal allergy is an allergy to that alpha-gal molecule and it now appears to be associated with the bite of lone star ticks in the US. Other ticks may be involved, but the science is not yet settled in this newly emerging area. Alpha-gal is also found in other countries associated with the bite of different ticks.

Symptoms can include: Rash, Hives, Difficulty breathing, Drop in blood pressure, Dizziness or faintness, Nausea or vomiting, and Severe stomach pain, which commonly appear 3-6 hours after eating meat (e.g., beef, lamb, pork, venison, and rabbit) or exposure to products containing alpha-gal. They may not occur
after every exposure and can vary with individuals.

**CDC:** Alpha-gal allergies can be severe, and even life-threatening. See a healthcare provider immediately if you are concerned about a severe allergic reaction.

Diagnosis can be made by an allergist, or other healthcare provider, through detailed patient history, physical examination, and a blood test for specific antibodies, IgE, to alpha-gal.

**Patients with Alpha-gal Syndrome:** There is a non-profit devoted to the identification, diagnosis, treatment, and prevention of tick-borne diseases, including alpha-gal, and other lesser known diseases. They are conducting a research study survey of people with Alpha-gal. If you are interested in more information on it: [See Alpha-gal on the TBC United website](https://www.med.unc.edu/medicine/news/chairs-corner/podcast/alpha-gal/)


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**Alpha-gal/Meat Allergy**

Alpha-Gal
Meat allergy caused by the bite of the deer tick, *Amblyomma americanum*.

The tick’s saliva triggers immune response to a carbohydrate, alpha-gal, found in red meat. Although eating red meat is the most common allergic trigger to alpha-gal, ingredients found in everyday products such as dairy, gelatin, soap, cosmetics, lotions, household products, and medications can also cause an allergic reaction.*

Symptoms: Can develop 3-4 hours after exposure and include upset stomach, headaches, hives, rashes, swelling, shortness of breath, anaphylaxis.

* The Tick-Borne Conditions United, [www.tbcunited.org](http://www.tbcunited.org) website can provide additional information for you about alpha-gal. NOTE: If you click on the link, you will have left the [www.LymeDiseaseAssociation.org](http://www.LymeDiseaseAssociation.org) website. The information presented there is that of the Tick-Borne Conditions United.
controls are critical to conducting this first study on metabolomics, and patients with confirmed Lyme disease are needed for the second study on Lyme disease and Disulfiram. Please support these clinical studies.

Dr. Brian Fallon,
Investigator

Metabolomics study of Lyme disease: Columbia (Brian Fallon, MD) in collaboration with UCSD:

- Women in Manhattan NY area over next four weeks
- 6-10 healthy women ages 40-60 for controls come to Columbia lab for blood & urine testing, questionnaire, clinical evaluation, sensory testing
- Participants receive $75 & free copies of their bloodwork
- Email Lily Murray for details  lm3448@cumc.columbia.edu

Lyme patient Disulfiram study:

- 14 week disulfiram study (Brian Fallon, MD)
- Ages 18-65 with confirmed Lyme disease, persistent fatigue, don’t have other major medical comorbid problems, acquired Lyme within prior 16 years
All research treatment is provided free of charge.
Inquiries on disulfiram study can be sent to: lymecenter@cumc.columbia.edu or can be made by phone 646-774-7503.
Weblink for this study: https://recruit.cumc.columbia.edu/clinical_trial/1661#

For details on these studies and other clinical research opportunities please visit Columbia University, Lyme and Tick-Borne Disease Research Center here.

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Torrey vs. IDSA/Insurers Lawsuit Update: Cigna Third Insurance Defendant to Settle

The Lyme Disease Association is providing the most recent update regarding Torrey vs. IDSA/Insurers, the federal lawsuit filed by 24 Lyme patients against six members of the Infectious Disease Society of America (IDSA) and eight insurance companies in the U.S. District Court for the Eastern District of Texas, Texarkana Division.
According to investigative journalist Mary Beth Pfeiffer, Cigna has now become the third insurance company defendant in the case to settle following Kaiser Permanente in November 2019 and Blue Cross Blue Shield of Texas (BCBST) in January 2020. Pfeiffer reports that, as was the case with the first two, the Cigna settlement is being handled in secret with sealed documents. The public may never know what the plaintiffs received, or what was accomplished during the hearings. The remaining defendants include the IDSA, five other insurance companies, and six Medical Doctors.

At this stage, this is all the information that has been made available. Details regarding the terms or amount of the settlements are unknown. The lawsuit was initially filed in 2017 on behalf of the group of Lyme disease patients who claim they have been denied care, as well as harmed, under existing insurance and medical protocols. The litigation proceedings will continue in the U.S. District Court in Texarkana, Texas.

LDA will provide updates when we have them. You can also continue to watch for updates on Mary Beth Pfeiffer’s website and Twitter feed.

Click here to view the Notice of proposed settlement of Cigna Health and Life Insurance Company.

Click here to view the Notice of settlement of BCBS of Texas.

Click here to view the Settlement reached with Kaiser Permanente.

Referenced articles and websites:


2. Thefirstepidemic.com. Amended complaint in Lyme lawsuit; battle lines are drawn. [Web Article]. Copyright 2019
CDC Focus on Maternal-Fetal Transmission of Lyme Disease

The Centers for Disease Control (CDC) updated its website to include information regarding maternal-fetal transmission of Lyme disease.

Updates from the CDC website:

- Lyme disease Transmission page under “Are there other ways to get Lyme disease?”: “Untreated Lyme disease during pregnancy can lead to infection of the placenta. Spread from mother to fetus is possible but rare. Fortunately, with appropriate antibiotic treatment,
there is no increased risk of adverse birth outcomes. There are no published studies assessing developmental outcomes of children whose mothers acquired Lyme disease during pregnancy."

- **Lyme Disease FAQ page** under “I am pregnant and think I have Lyme disease, what should I do?”: “If you are pregnant and suspect you have contracted Lyme disease, contact your physician immediately. Untreated Lyme disease during pregnancy can lead to infection of the placenta. Spread from mother to fetus is possible but rare. Fortunately, with appropriate antibiotic treatment, there is no increased risk of adverse birth outcomes.* There are no published studies assessing developmental outcomes of children whose mothers acquired Lyme disease during pregnancy.”

- **Pregnancy and Lyme disease poster**: information on symptoms, diagnosis, and treatment. Regarding breastfeeding the poster states, “There are no reports of Lyme disease transmission through breast milk.”

LDA President, Pat Smith, said this about the CDC’s recent update, “The maternal-fetal aspect of Lyme disease, mother to baby transmission, has long been known but not well-publicized. The new CDC focus on this Lyme transmission method has been missing in Lyme disease education. A number of advocacy groups, including the LDA, have had information on their websites. LymeHope in Canada has been strongly advocating for wider recognition of this aspect, in particular nurse Sue Faber, who spoke before the HHS TBD Working Group in DC in January 2020. Now it is up to all of us to call attention to this CDC focus to ensure health departments and physicians are aware of the situation and that they take appropriate steps to ensure pregnant women get the necessary care.”

Visit the CDC **Lyme disease website**.
Pregnancy, Breastfeeding & Lyme Bibliography

Any woman who has Lyme disease and is considering becoming pregnant or who is pregnant, or who is bitten by a tick during pregnancy, should see a Lyme disease doctor, one who understands the serious medical implications of Lyme during pregnancy. The Lyme bacteria, *Borrelia burgdorferi*, can cross the placenta and can cause death of the fetus. The Lyme Disease Association (LDA) has compiled the following list of articles related to Lyme and pregnancy and Lyme and breastfeeding for informational purposes only, for your review and review by your physician.

NEW in 2020! [CDC Focus on Maternal-Fetal Transmission of Lyme Disease](#)


Carlomagno G; Luksa V; Candussi G; Rizzi GM; Trevisan G Acta Eur Fertil 1988 Sep-Oct;19(5):279-81 Dept. of Obstetrics and Gynecology, University of Trieste School of Medicine. Lyme Borrelia positive serology associated with spontaneous abortion in an endemic Italian area.


Lavoie PE; Lattner BP; Duray PH; Barbour AG; Johnson HC. Arthritis Rheum 1987; Culture positive seronegative transplacental Lyme borreliosis infant mortality. Volume 30, Number 4, 3(Suppl): S50.


Markowitz, L. E., Steere AC, et al. (1986). “Lyme disease during pregnancy.” JAMA 255(24): 3394-6. Because the etiologic agent of Lyme disease is a spirochete, there has been concern about the effect of maternal Lyme disease on pregnancy outcome.


Moro, Manuel H.; Bjornsson, Johannes; Marietta, Eric V.; Hofmeister, Erik K.; Germer, Jeffrey J.; Bruinsma, Elizabeth; David, Chella S.; and Persing, David H. (2001). “Gestational Attenuation of Lyme Arthritis Is Mediated by Progesterone and
IL-4,” J Immunol 2001; 166:7404-7409


Williams CL, Strobino BA, Lee A, Curran A, Benach JL, Inamdar


Breastfeeding


Pregnancy & Breastfeeding

Centers for Disease Control & Prevention (CDC) website

During Pregnancy & While Breastfeeding
“Lyme disease acquired during pregnancy may lead to infection of the placenta and possible stillbirth, however, no negative effects on the fetus have been found when the mother receives appropriate antibiotic treatment. There are no reports of Lyme disease transmission from breast milk.”
http://www.cdc.gov/ncidod/dvbid/LYME/ld_transmission.htm
Rodent-Targeted Bait Vaccine Shows Decrease in Lyme Disease Transmission

The Connecticut Agricultural Experiment Station (CAES) and US Biologic, Inc. released the publication of a field trial study showing the effectiveness of an orally-delivered anti-Lyme vaccine that targets the white-footed mouse, the major wildlife source of Lyme disease.

The study took place in the residential area of Redding, CT, over a three-year time period and showed substantial decreases in the number of infected mice. One year into the study, test sites that had been treated with the vaccine showed a 13X greater decrease in blacklegged ticks (*Ixodes scapularis*, the
primary vector associated with the spread of disease) infected with *Borrelia burgdorferi* (the bacterium that causes Lyme disease) compared to control sites (i.e., 26% drop versus 2% drop).

“Fewer infected ticks mean less infection in the field overall,” says Dr. Kirby C. Stafford, Chief Scientist and State Entomologist, “So the decrease would be greater year-over-year that the vaccine is applied.”

A second effect, which has been observed in previous laboratory-based studies showed that the vaccine causes the mice to generate antibodies and therefore previously infected ticks act as a ‘xenodiagnostic marker’ of vaccine impact, meaning once they ingest the antibodies, while feeding on vaccinated mice, the ticks then become ‘cleared’ of infection.

Dr. Scott C. Williams, Agricultural Scientist and co-author of the study verified that when non-infected mice feed on vaccine-coated pellets, they are then protected from the *Borrelia burgdorferi* infection. “Non-infected ticks, therefore, cannot pass the disease to other animals, including humans” he says.

The study’s findings were published in the peer-reviewed publication, *Experimental and Applied Acarology*. Click [here](#) to view the press release from The Connecticut Agricultural Experiment Station.

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**Neurological Complications of**
Vaccination with Outer Surface Protein A (OspA). Marks DH1


Abstract

A wide range of neurological complications have been reported via the medical literature and the VAERS system after vaccination with recombinant outer surface protein A (OspA) of Borrelia. To explore this issue, 24 patients reporting neurological adverse events (AE) after vaccination with Lymerix, out of a group of 94 patients reporting adverse events after Lymerix vaccination, were examined for causation. Five reports of cerebral ischemia, two transient Ischemic attacks, five demyelinating events, two optic neuritis, two reports of transverse myelitis, and one non-specific demyelinating condition are evaluated in this paper. Caution is raised on not actively looking for neurologic AE, and for not considering causation when the incidence rate is too low to raise a calculable difference to natural occurrence.

PMID: 21673416
DOI: 10.3233/JRS-2011-0527

[Indexed for MEDLINE]
How Have Tick-Borne Diseases Grown in the United States?

Published on May 24, 2017 by ContagionLive (3rd of 9 segments)
Patricia Smith, President of the Lyme Disease Association, Inc, discusses how tick-borne diseases have grown in the United States.

[Link to the Contagion® website]

Full list of interview segments

Study Shows Increase of Non-Lyme Tick-Borne Diseases

A study by Elizabeth Lee-Lewandrowski, PhD, MPH, et al, published in The American Journal of Clinical Pathology from the Department of Pathology, Massachusetts General Hospital and Harvard Medical School, evaluated trends in non-Lyme disease tick-borne disease (NLTBI) blood testing at Quest Diagnostics laboratory located in New Jersey.

The study took place over the course of seven years and included polymerase chain reaction (PCR) and serological tests. Testing data from Quest Diagnostics were analyzed both nationally and at the state level from 2010 through 2016.
The study showed that:

- testing and positivity for most NLTBIs increased dramatically over the course of the study,
- testing criteria was not as stringent as required for public health reporting, but the study showed that the number of positive cases generally exceeds those reported by the Centers for Disease Control and Prevention (CDC),
- frequency of NLTBI in US is seasonal but testing activity and positive test results are present throughout all months of the year, and
- positive results for NLTBI testing originated primarily from a limited number of states, signifying a geographic concentration and distribution.

The study shows a significant increase in the number of reported cases of many NLTBI from 2004 to 2016, including a 6.6-fold (875 to 5,750) increase in anaplasmosis and ehrlichiosis combined. It also uncovered a significant underreporting of Lyme disease and Q fever to the CDC. Since reporting for tick-borne illnesses (TBI) generally use the same reporting system as Lyme disease, the researchers indicate the possibility that underreporting also occurs for other TBI.

The study outlines laboratory-developed tests (LDTs) that have not been cleared by the US Food and Drug Administration (FDA) but have been approved by Clinical Laboratory Improvement Amendments (CLIA) regulations.

Said LDA President Pat Smith, “Although the findings are not surprising to many in the Lyme community, it is imperative that we have this data to support the increases in many of these non-Lyme tick-borne diseases. Increased awareness will result in medical professionals being more likely to consider other tick-borne diseases in people who have been bitten by ticks.”
See entire AJCP article here.