



COVID-19 Precautions for Alpha-gal Syndrome Patients

Information for Healthcare Providers – April 7, 2020

What is Alpha-gal?

Alpha-gal (galactose- α -1,3-galactose) is a sugar molecule found in most mammals (except in humans and great apes). It is found in “red meat” such as beef, lamb, pork, venison, rabbit, and squirrel. It is not found in fish, reptiles, or birds.

Alpha-gal can be found in products that contain mammal ingredients (including some medications, cosmetics, vaccines, gelatin, and milk products). Carrageenan (extracted from red edible seaweeds) may also contain the alpha-gal epitope.

What is Alpha-gal Syndrome?

Alpha-gal Syndrome (AGS), also referred to as alpha-gal allergy or red meat allergy, is an allergic reaction to the alpha-gal sugar molecule. Reactions occur between zero and ten hours after people eat meat from mammals or are exposed to products that contain mammal ingredients, including medications, cosmetics, vaccines, gelatin, and milk products. AGS is associated with the bite of the lone star tick in the U.S., although exact mechanism is not yet understood. No ICD diagnosis code exists for AGS at this time.

Treatment

Allergen avoidance along with rescue medication(s) when needed. No U.S. FDA-approved medications exist for food allergies in general, including AGS.

For complete definition and background, visit the Tick-borne Disease Working Group, Alpha-gal Syndrome Subcommittee report –

<https://www.hhs.gov/ash/advisory-committees/tickbornedisease/reports/alpha-gal-subcomm-2020/index.html>

COVID-19 Guidelines

- World Health Organization
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- US Centers for Disease Control –
<https://www.cdc.gov/coronavirus/2019-ncov/>
- American Academy of Asthma Allergy and Immunology
<https://education.aaaai.org/resources-for-a-i-clinicians/covid-19>

–All medical decisions should be made on an individual basis in conjunction with the patient’s treating physician .



Medications

Medications known to have some risk to AGS patients are those made with gelatin or gelatin capsules. Many AGS patients can consume gelatin and gelatin capsules without side effects. Some patients report problems with additives such as magnesium stearate. The medications below are being tested for treatment of COVID-19 in multiple countries.

Potential Medical Treatments for SARS-CoV-2

Most care is supportive and many of these inactive ingredients that could be derived from mammal sources may occur in such small quantities that risk for AG-based reaction would be quite low. If potential risk exists based on prior experience, premedication with liquid steroid or Benadryl is an option.

Arbidol – also known as umifenovir, is a broad-spectrum antiviral compound. Not approved for use in US or EU, so difficult to find reliable data. Appears to be sold in capsule form; non-medicinal ingredients: potato starch, microcrystalline cellulose, silicon dioxide, povidone, calcium stearate.

Azithromycin – is a macrolide antibiotic commonly used for respiratory infections; it is available as tablet and oral suspension. Liquid form is mammal free (as of this writing).

Linezolid – broad-spectrum antibiotic; available in IV, oral suspension, and tablet forms. Inactive ingredients in IV form are sodium citrate, citric acid, and dextrose. Tablets inactive ingredients are corn starch, microcrystalline cellulose, hydroxypropylcellulose, sodium starch glycolate, magnesium stearate, hypromellose, polyethylene glycol, titanium dioxide, and carnauba wax. Suspension inactive ingredients are sucrose, citric acid, sodium citrate, microcrystalline cellulose, and carboxymethylcellulose sodium, aspartame, xanthan gum, mannitol, sodium benzoate, colloidal silicon dioxide, sodium chloride, and flavors.

Lopinavir / ritonavir – HIV protease inhibitor +/- interferon beta 1b. Ongoing protocol for MERS in Saudi Arabia; case reports of response. Available in solution (liq) and tablets. Non-medicinal ingredients for the oral solution: acesulfame potassium, artificial cotton candy flavor, citric acid, ethanol, glycerin, high fructose corn syrup, Magnasweet-110 flavor, menthol, natural and artificial vanilla flavor, peppermint oil, polyoxyl 40 hydrogenated castor oil, povidone, propylene glycol, saccharin sodium, sodium chloride, sodium citrate, and water.

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(**Lopinavir / ritonavir continued ...**)

Tablets contain colloidal silicon dioxide, copovidone, sodium stearyl fumarate, and sorbitan monolaurate. The film coating contains colloidal silicone dioxide, hydroxypropyl cellulose, hypromellose, polyethylene glycol 400, polyethylene glycol 3350, polysorbate 80, talc, titanium dioxide, and yellow ferric oxide 172.

Nemonoxacin – a broad-spectrum antibiotic does not seem to be approved yet in the US. Might be available in specific sites due to ongoing clinical trials. In Taiwan, appears to have oral and IV formulations but unclear what form, if any, is used in the US.

Plaquenil (hydroxychloroquine) – active against many viruses in the lab; no activity in humans for influenza. In animal model, made flavivirus infection worse. Available as tablets. Non-medicinal ingredients are black ink, calcium hydrogenophosphate, carnauba wax, corn starch, magnesium stearate, Opadry White YS-I-7443 and polyethylene glycol 400.

Remdesivir – nucleoside analog inhibitor of RNA polymerase. IV; not widely available – little data currently and is not yet licensed. Available by compassionate use through Gilead.

Other Notes: Prednisone (aka solumedrol, dexamethasone, cortisol) has not been shown to be helpful in treating COVID-19. However, authorities suggest patients continue to take their daily asthma medications as asthma control is an important aspect of daily health. Also suggested to consider as premedication when potential reaction may occur.

Abbreviated References

TBCUnited.org/covid19-alpha-gal-syndrome/ (full list)

[www.thelancet.com/pdfs/journals/lanres/PIIS2213-2600\(20\)30071-0.pdf](https://www.thelancet.com/pdfs/journals/lanres/PIIS2213-2600(20)30071-0.pdf)

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– All medications should be verified with manufacturer for mammal ingredients –

For an online digital version of this information, go to:

TBCUnited.org/covid19-alpha-gal-syndrome/
TBCUnited.org

