
The MAP Gap

Bridging The Space Between The Science And You

TheCrohnsInfection.org Quarterly Newsletter

July 2016

Site News

Welcome! It's been a busy three months here at The Crohn's Infection. **On June 21st, we celebrated our [first birthday](#).** Hard to believe it's been a year since a few brave researchers asked for a hand in creating a site to publicize the [2015 Chicago symposium](#). Since then, we've grown into an education site helping patients achieve Remission Through Education. We couldn't have done it without the doctors, researchers, and patients who provide financial, intellectual and moral support. **A huge THANKS to you all!** As always, we welcome comments and suggestions on what you would like to see on the site in the future.

We continue to add in articles on specific medications in our series on [Traditional Treatment of Crohn's Disease section](#). Majestic Plural Studios provided us with a second set of video clips that can be found in the [Documentary section](#) of videos.

Looking ahead, we'll continue to report on any new Crohn's and mycobacteria research, and will begin a new series in the second half of 2016. You can find real time information on site happenings by joining our private [Facebook Group!](#)

Lastly, we've receive a number of inquiries about how to find **a doctor who will discuss or prescribe AMAT**. In case you missed it, there is an [FAQ](#) that addresses this query, and we maintain a confidential list of doctors around the world who may be able to assist patients. If you've exhausted the resources described in the FAQ section, drop us a line! (Include your email address so that we can respond.) It could be that another patient has sent us information on a doctor in your area. Have a doctor who is prescribing AMAT for you? Send it over to help others! ❖

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Research Corner

Below we have summarized some recent mycobacterial research articles. While we've simplified the content in an attempt to make it accessible to everyone, we've also provided links if you'd like to view the source and read the full article/abstract. While this is not an exhaustive list, we thought these articles were the most pertinent to the focus of the site.

Thermal Inactivation of Mycobacterium avium subsp. paratuberculosis in Artificially Contaminated Milk by Direct Steam Injection. (April 2016)

While the debate over whether MAP is a zoonotic pathogen rages on, it may be wise to implement preventative measures regardless. This study discusses one method of eliminating MAP from dairy products that could be used in the future.

The researchers at the Nestle Research Center in Switzerland developed a process where they treated artificially contaminated milk samples with 105°C direct steam injection for three seconds with the goal of

inactivating MAP. After treatment, no MAP was recovered in culture.

[Peterz, M et al, Appl Environ Microbiol. 2016 Apr 18;82\(9\):2800-8.](#) ❖

Association of Acute Gastroesophageal Reflux Disease with Esophageal Histological Changes. (May 2015)

Although not strictly related to Crohn's disease, GERD is something many IBD sufferers deal with. In this article, the researchers surprisingly discovered that GERD is not caused by destruction of the esophageal cells by refluxed stomach acid as previously believed.

The researchers enlisted 12 patients who were being fully managed on proton-pump inhibitors (PPIs) for severe esophagitis. The PPIs were discontinued, and biopsies of the esophagus were taken at one week and two weeks post PPIs. By two weeks, all patients had relapsed. The results showed that cytokines produced an inflammatory response causing the damage, but not to the surface cells of the esophagus.

[Kerry B. Dunbar, et al, JAMA. 2016 May 17;315\(19\):2104-12.](#) ❖

Microbial pathogens in source and treated waters from drinking water treatment plants in the United States and implications for human health. (June 2016)

Researchers here tested source and treated water from 25 treatment plants in the United States for a variety of pathogens. Included was MAP. The authors found that while most pathogens were present in the source water, they were absent in the treated water. The notable exception were the Mycobacterial species. Amazingly, Mycobacterial species were only detected in 25% of the source water samples, but were detected in 36% of the treated water samples! The conclusion was that Mycobacteria are commonly detected in treated waters, even where they are not found in source waters.

[King, DN et al Sci Total Environ. 2016 Aug 15;562:987-95.](#) ❖

Gene-Microbiota Interactions Contribute to the Pathogenesis of Inflammatory Bowel Disease. (May 2016)

A collaboration of United States researchers have put a new twist on microbiome research. Here, they looked at genetic defects (NOD2 and ATG16L1) playing a key role in the microbiome's protective response to pathogenic bacterial species. They observed that Crohn's patients who had these one of these genetic defects had no mechanism to utilize *Bacteroides fragilis*, a species conveying a protective mechanism against gut pathogens.

"This study significantly advances the knowledge base for physicians treating patients with Crohn's disease...Current therapies for IBD patients lead to remission in only about 30% of the cases...This work is a critical step in development specific therapies that can provide more effective and individualized treatment for patients." [Shlomo Melmed, Cedars-Sinai](#)

To summarize, this article states that genetic defects increase the likelihood that Crohn's disease patients will become infected with pathogenic species, and that the immune system of Crohn's disease patients will not be able to handle these like a normal person will. The lingering question: Why are immuno-suppressive medications the standard treatment for Crohn's disease, especially in light of the above stated low remission rate?

[Chu, H et al, Science, 05 May 2016, DOI: 10.1126/science.aad9948.](#) ❖

RHB-104 triple antibiotics combination in culture is bactericidal and should be effective for treatment of Crohn's disease associated with *Mycobacterium paratuberculosis*. (June 2016)

The researchers from the University of Central Florida (including Dr. Saleh Nasser) found that the raw active ingredients used in RHB-104 worked together in combination to inhibit the growth of 16 *Mycobacterium avium paratuberculosis* (MAP) strains and 19 other mycobacterial species. The raw active antibiotics at the percentages contained in RHB-104 (clarithromycin, rifabutin, and clofazimine) were tested alone and in combination in culture against 16 strains of MAP isolated from human Crohn's disease patients, 9 strains of *Mycobacterium avium* and 10 other mycobacterial species.

(NOTE: The researchers did not test RHB-104 itself, but the active antibiotics of RHB-104 in their relative percentages.) They measured the Minimum Inhibitory Concentration (MIC) of each antibiotic individually, in dual combinations and as a triple therapy against these species to determine how much of each antibiotic/combination it would take to inhibit bacterial growth. (Here, Minimum Inhibitory Concentration is defined as the lowest amount of a chemical that will completely inhibit bacterial growth.) The results showed that the triple combination of clarithromycin, rifabutin, and clofazimine contained at the relative percentages in RHB-104 was the most effective at inhibiting mycobacterial growth.

For a full review of this article, please see [The Crohn's Infection](#)

[Alcedo, K et al, Gut Pathogens 2016 8:32](#) ❖

Seroreactivity against specific L5P antigen from *Mycobacterium avium* subsp. *paratuberculosis* in Children at risk for T1D. (June 2016)

Samples from 32 children at risk for Type I Diabetes and 42 healthy controls were studied. The researchers found that insubject at risk for T1D, MAP may cross react with ZnT8 and proinsulin peptides to cause an immune response early in life. This research "makes MAP a conceivable environmental agent at play in T1D development."

[Niegowska, M et al, PLoS One. 2016 Jun 23;11\(6\): e0157962.](#) ❖

Other News

A huge congratulations goes out to John Aitken, who [made headlines](#) for his **advances in the microbiology of Crohn's disease**. Many of you may have sent samples to John for testing already, but his new [Otakaro Pathways website](#) streamlines this service for patients around the world. We look forward to many great things from Mr. Aitken's camp in the future!

Another of Prof. Thomas Borody's original AMAT patients, Richard Chesworth, was in the news in April when he [shared his story of healing](#). Aside from being an inspiration story, the article states that Prof. Borody believes that **80% of people will go into remission within 6 months** when treated initially with AMAT, rather than current therapies.

Japan is taking MAP seriously, and recently [suspended cattle imports from Australia](#) due to positive John's disease tests. The cattle tested negative for John's disease while in Australia. Both governments are reviewing the tests, and are working to resolve the issue.

The **winner** of The Crohn's Infection's first ever site contest was Sharon Cooney! Thanks to all who shared our site and entered. ❖

Just for Fun

The Six Stages of Medical Research

1. Enthusiasm
2. Disillusionment
3. Panic
4. Search for the Guilty
5. Punishment of the Innocent
6. Praise and Honors for the Non-Participants. ❖

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