



Animal Research Shows that a Common Food Dye Can Trigger IBD

by Wayne Persky

Many of us have long suspected that certain food additives are causing health problems. Now, researchers are slowly proving that many of the food additives allowed by government regulations may be causing various autoimmune diseases, and other serious health problems. In the US, food products (and therefore, food additives) are regulated by the Food and Drug Administration (FDA). In Europe, food products (and food additives) are regulated by the European Food Safety Authority (EFSA).

In the US, the safety of food additives is evaluated by one of two methods:

1. Scientific procedures
2. GRAS

GRAS stands for Generally Recognized



Antibiotic Treatments and the Risk of Developing an IBD

by Wayne Persky

Because we're microscopic colitis (MC) patients, we've been forced to learn more about our disease. Consequently, most of us are well aware that in many of our cases, the use of antibiotics appears to have been the primary reason for the development of our disease. But accurate data regarding the risk of using antibiotics was unavailable. That void has finally been filled by researchers. A study of the association between antibiotic treatments and inflammatory bowel disease (IBD) development, based on the medical records of over 6 million patients aged 10 years and older, who were followed from 2000 to 2018, was recently completed in Denmark (Faye et al., (2023, January 9).¹

A detailed analysis of the Denmark study results can be found in a MedPageToday online article (Minerd, 2023, January 9).² According to the article, when compared with individuals

As Safe.¹ According to FDA regulations, substances in this category (GRAS) may have been approved according to scientific procedures, or they may have been:

"used in food before 1958, through experience based on common use in food Under 21 CFR 170.30(b).

Under 21 CFR 170.30(c) and 170.3(f), general recognition of safety through experience based on common use in foods requires a substantial history of consumption for food use by a significant number of consumers."

In other words, their use may have been grandfathered in 1958, without any formal testing for safety.

The EFSA has more rigid standards for the evaluation of food safety.

By contrast, the EFSA Panel on Food Additives and Flavorings' assessments of the safety of food additives are based on a scientific review of all the toxicological data available for both humans and animals. "Grandfathered" approval is not allowed in the EU.

New research raises red food dye concerns.

Recently published research, using mice as research subjects, showed that chronic exposure to a commonly used food dye, known as Allura Red, increases the risk of developing IBD (Kwon, et al., 2022).² Allura Red is also known as FD&C Red 40 and Food Red 17, in the US, and Allura Red AC in Europe. The research showed that chronic exposure to Allura Red tends to trigger what was described as "mild colitis", that was associated with an elevation of serotonin, and impaired epithelial barrier function in the colon.

Exposure early in life may carry the biggest risk.

While the research showed that mice that were only intermittently exposed to the food dye did not appear to have an increased risk of the development of IBD, it did show that mice that were exposed to the food dye early in life developed an increased susceptibility to the development of IBD, suggesting that human infants might develop an increased susceptibility to IBD if

who had never used antibiotics, all age groups showed an increased risk of developing an IBD following the use of antibiotics. For people between the ages of 40 and 60, the risk increase was 48%. Those younger than 40 showed about a 28% increased risk, while those older than 60 showed a 54% risk increase.

As is usually the case with IBD studies, MC patients were not included.

However the results appeared to be similar for both ulcerative colitis and Crohn's disease patients, so there is no apparent reason why the risk statistics wouldn't apply to MC patients, as well. As we've found, the highest risk of developing MC appears to be associated with the use of antibiotics that are often prescribed to treat gastrointestinal pathogens, much as the researchers found for the risk of developing ulcerative colitis or Crohn's disease.

The study found that the highest risk of developing an IBD occurred 1 to 2 years after the antibiotic treatment, and decreased each year after that. The highest risks of developing an IBD appear to be associated with the two classes of antibiotics known as nitroimidazoles [metronidazole (Flagyl, Metrogel,) and tinidazole (Tinadamax), for example] and fluoroquinolones [ciprofloxacin (Cipro) and levofloxacin (Levaquin), for example]. For individuals 60 and over, nitroimidazoles were associated with a 61% increased risk, and fluoroquinolones were associated with a 54% increased risk of developing an IBD. And, of course, the study showed that the risk of developing an IBD increased with multiple antibiotic treatments. For patients who were 40 to 60 years old, the risk of developing an IBD increased 15% with each additional antibiotic treatment. Patients in the 60 and older category who had received five or more antibiotic treatments, showed a 95% increased risk, almost double the risk of developing an IBD compared with those who had no antibiotic treatments.

Is there such a thing as a "safe" antibiotic?

That is, are there any antibiotics that will not trigger an MC reaction? Maybe. While the class of antibiotics known as

exposed to the food dye at a very young age. Although it's currently unknown whether Allura Red has the same effects on humans as it does on mice, experience shows that such digestive system effects in mice often tend to be similar for the human digestive system.

Food additive regulations vary by country.

Although Allura Red AC is currently allowed as a food colorant in the European Union (EU), local laws that ban food colorants are preserved. Accordingly, Allura Red AC is banned in Austria, Belgium, Denmark, France, Germany, Sweden, and Switzerland (Chemeurope.com., n.d.).³ Additionally, in EU countries that allow the food colorant, foods that contain it are required to carry label warnings to the effect that they might cause adverse effects for children. By contrast, there are no label warnings, or any other restrictions in the US, because this food dye is approved by the FDA as “generally recognized as safe”

Use of this dye in commercially processed foods is very popular in the US.

According to the Cleveland Clinic, it's commonly used in the following foods (Nutrition, 2023, March 8):⁴

- Cakes and frosting.
- Pastries.
- Cereals.
- Candy and gum.
- Yogurt.
- Puddings.
- Gelatins.
- Ice cream.
- Popsicles.
- Soda.
- Sports drinks.
- Energy drinks.
- Protein powders.
- Chips and salty snack foods.

And symptoms due to possible side effects may include:

- Hyperactivity, including ADHD.
- Behavioral changes like irritability and depression.
- Allergic reaction.
- Hives and asthma.
- Sneezing.
- Watery eyes.
- Skin irritation.

macrolides were not mentioned in the original research articles cited above, that doesn't exempt them from the possibility of being found to be associated with the development of IBD in future research projects. But based on our own experiences, to date at least, macrolides such as azithromycin (Zithromax) [Z-Pak], clarithromycin, and erythromycin can usually be safely used for treating respiratory and skin infections without triggering an MC reaction.

However, studies of this type should not discourage the use of antibiotics when their use is actually indicated.

The data, as always, should be viewed in context. Although 91% of the cohort in this study received at least one antibiotic treatment during the period covered by the study, only 0.87% of them actually developed an IBD, indicating that the real (or absolute) risk of developing an IBD because of an antibiotic treatment was relatively low (less than 1%). While this is still a significant risk, it's a risk that should be acceptable to someone in a life-threatening situation, who desperately needs an antibiotic treatment.

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- Migraines.

Avoiding this dye may be especially important for those who have existing allergy problems.

Although no “cause and effect” research using human subjects has been published to date, avoiding this dye whenever possible is almost surely a prudent choice. Looking at the range of allergy based symptoms that it can cause, and the broad selection of foods in which it is commonly used, suggests that it might play a significant role in the increasing allergy problems so common in today's society, especially among the youth.

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