Sugar Additive Linked to C. Difficile Superbugs

Scientists from Baylor University in Texas have found compelling evidence linking the recent rise of virulent Clostridium difficile infections to a widely used sugar additive, trehalose. Antibiotic-resistant C. diff infections are one of the biggest challenges facing the healthcare industry, with the Centers for Disease Control reporting that in a year, the bacteria kill 15,000 people within thirty days of infection. Baylor researchers noticed that the C. diff epidemic exploded within two years of trehalose's FDA approval and determined that two particular bacteria strains, RT027 and RT078, were capable of using trehalose as their sole carbon source.

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Why Trehalose?

Trehalose is a disaccharide sugar found naturally in mushrooms, shrimp, and many insects. Prior to 2000, trehalose as an alternative food additive was too expensive to be widely used. However, a Japanese company introduced a way to extract the sugar, and it is now added to a wide range of food products, like ice cream, fruit, frozen foods, baked goods, and various beverages.

Researchers were not able to identify trehalose as the reason for the C. diff epidemic. After all, only two strains of C.diff thrived on trehalose. Those strains, RT027 and RT078, didn't experience an increase in the number of bacteria. However, the RT027's enhanced ability to metabolize trehalose resulted in more C. diff toxins, making the bacteria more virulent.

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Not all C. diff develops into a serious or life-threatening infection. But the link between trehalose and the virulence of C. diff bacteria makes the case that these infections are of our own making. When we eat sugar or processed food (trehalose is almost always both), we feed potentially harmful bacteria and overwhelm beneficial bacteria. Previous research has also linked serious cases of C. diff with antibiotic use, a treatment methodology that wipes out the beneficial bacteria necessary for gut balance.

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This new study appears to confirm the information we already have — the standard Western diet of processed, sugary foods has serious consequences.

https://www.youtube.com/watch?v=wpRUfv-ioNU

Sources:

- How C. Diff Infections Decrease with Fewer Antibiotics —
 Organic Lifestyle Magazine
- A popular sugar additive may have fueled the spread of not one but two superbugs — LA Times
- Food Additive May Be Worsening Clostridium Difficile Epidemic — American Council on Science and Health
- Nearly half a million Americans suffered from Clostridium difficile infections in a single year — CDC.gov