

Study exposes dangers of Chobani yogurt mold outbreak (Update)

July 8 2014, by Kerry Sheridan



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A mold outbreak last year in some US containers of Chobani yogurt may have been more dangerous than the company initially acknowledged, according to a scientific study out Tuesday.

The yogurt company issued a voluntary recall of certain products with



"best by" dates between September and October 2013 from its Idaho plant.

More than 300 consumers reported bloating, diarrhea and vomiting.

The company said at the time "this type of mold is unlikely to have ill health effects," but agreed to the voluntary recall after customer complaints.

Researchers at Duke University reported in the journal mBio that the mold was actually a type that has been shown to be potentially fatal in people, and when injected into mice it killed some of them and sickened others.

"When we heard about the Chobani recall after reports of people becoming sick from yogurt contaminated with Mucor circinelloides, we thought the M. circinelloides strain could cause more serious problems than one might think," said study author Soo Chan Lee.

Lee obtained a partially eaten container of Chobani from a Texas couple that had been sickened after eating it.

"One of them experienced repeated vomiting and diarrhea for two entire days with two days of missed work; the other was severely nauseated with diarrhea for a few days without vomiting," said the study.

The product expired September 30, 2013, which was in the date range of the recall, and carried the ID number designated for the recall, 16-012.

Lab analysis showed that the strain was Mucor circinelloides f. circinelloides (Mcc).

"Unlike other strains of the fungus, that particular subspecies is



commonly associated with human infections," said the study.

"Whole-genome sequence analysis of the yogurt isolate confirmed it as being closely related to Mcc and also revealed the possibility that this fungus could produce harmful metabolites that were previously unknown in this species."

Dangers of fungi

The researchers said it remains unclear whether Mucor infection is directly responsible for the illnesses reported in the yogurt outbreak.

However, the study pointed to a series of past case reports in the scientific literature that showed Mucor can "cause fatal fungal infections through ingestion of contaminated foods or medicines."

They also did research on lab mice, showing that the fungus could cause deadly infections when injected into the bloodstream.

When ingested orally by mice, the fungal spores could survive passage through the intestinal tract.

Chobani, however, insisted the recalled yogurt had been "aggressively" tested "with third party experts confirming the absence of foodborne pathogens."

In a statement responding to the study, company vice president Alejandro Mazzotta said, "to our knowledge, there is no evidence, including the results presented in this publication, that the strain in the recalled products causes illness in consumers when ingested."

The company added it had implemented additional microbiological testing at its facilities and "routinely conducts more than 500



microbiological tests daily."

Lee and colleagues said the findings give cause for caution among the general public that fungal pathogens can be dangerous.

"When people think about food-borne pathogens, normally they list bacteria, viruses, and maybe parasites," said Lee.

"However, this incidence indicates that we need to pay more attention to fungi. Fungal pathogens can threaten our health systems as food-borne pathogens."

More information: "Analysis of a foodborne fungal pathogen outbreak: virulence and genome of a Mucor circinelloides isolate from yogurt," Soo Chan Lee, R. Blake Billmyre, Alicia Li, Sandra Carson, Sean M. Sykes, Eun Young Huh, Piotr Mieczkowski, Dennis C. Ko, Christina A. Cuomo, and Joseph Heitman. *mBio*, July 8, 2014. DOI:10.1128/mBio.01390-14

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Citation: Study exposes dangers of Chobani yogurt mold outbreak (Update) (2014, July 8) retrieved 24 April 2024 from https://medicalxpress.com/news/2014-07-reveals-fungus-yogurt-outbreak-poses.html

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