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World-Renowned Experts Aim To Offer Potential Explanations For WA Birth Defects Spike

Researchers Will Discuss Harmful Grain Mold And Its Link To Anencephaly At Annual Conference

BELLEVUE, WA – Could fumonisin, a toxin produced by a mold that grows on corn and other grains, be involved in an unexplained cluster of rare birth defects affecting more than 30 families in rural Washington since 2010? This is one of the questions the Teratology Society, a professional international group hailed as the premier source for cutting-edge research and authoritative information related to birth defects, will aim to answer at its annual conference this month in Bellevue. The meeting will be hosted at the Hyatt Regency Bellevue June 28 – July 2, 2014.

The goal of the annual meeting is to provide a forum for scientists to present the latest information on birth defects research allowing Teratology Society members and non-member attendees to learn about new discoveries, discuss the implications of the new information, and to provide an opportunity for clinicians, scientists from government, industry and other health professionals to update their birth defects' knowledge. Teratology leaders say this is why it's paramount the group specifically highlight incidences happening in the annual meeting's backyard – rural Washington. An unexplained spike in cases of anencephaly, a rare and fatal birth defect where part of the fetal brain and skull does not develop, has plagued the communities of Yakima, Franklin and Benton counties in this region over the past four years.

According to Elaine Z. Francis, PhD, Teratology Society president, there was a similar cluster of anencephaly in Brownsville, TX in the early 1990s. It was discovered that the fumonisin was very high in corn and resulted in a contaminated food supply. Several diseases in animals also resulted from consumption of corn containing fumonisin. In the case of Brownsville, these diseases also increased at the same time as anencephaly in humans. "So while we cannot be certain that any one case of anencephaly was caused by fumonisin, the evidence indicated that high levels of fumonisin in food made from corn may have played a role in the increase in anencephaly cases," said Francis.

Janee Gelineau-van Waes, DVM, PhD, a researcher who's examined fumonisin in other parts of the world where corn is a dietary staple, will present during the meeting as part of a symposium focusing on the anencephaly spike. "If an individual consumes corn-based food products on a daily basis, they are likely to be exposed to higher levels of fumonisin than someone who only occasionally eats corn-based foods," explained Gelineau-van Waes. "There is a large Hispanic population living in central Washington, and because they are more likely to consume corn-based foods as part of their regular daily diet, they are also more likely to be at risk for higher exposure to fumonisin," she added.

While the fumonisin theory is a potential explanation that might be considered in Washington's cases, Francis warns about its limitations. "It is difficult to relate any specific individual birth defect with a specific event that caused the birth defect due to a number of environmental, genetic and nutritional factors. In most cases, the cause of the birth defect cannot be determined with absolute certainty and we have to rely on the best evidence that we have," she said.

The *Hot Topics* symposium on the anencephaly cluster will also include speakers from the Washington State Department of Health and the Centers for Disease Control and Prevention who will explain approaches used to investigate clusters of birth defects.

Other highlights of this year's annual meeting, which is in its 54th year, will be several presentations that unveil important research areas in birth defects, including the effects and management of thrombosis during pregnancy, abnormal testicular development, and the development of cutting-edge methods for predicting birth defects.

The Teratology Society is offering a free one-day registration to local students who want to attend the meeting and learn about teratology, the study of exposures and other factors causing birth defects. In addition, career training to students and postdoctoral fellows who are registered for the meeting will be provided.

"One of the goals of our annual meeting is to provide a forum to spur discussions and networking opportunities among scientists with a variety of different perspectives and experiences. Sometimes, it takes the melding of expertise from a basic researcher, an epidemiologist, a clinician, and a science policy expert to address a public health concern," said Francis.

The Teratology Society, which is made up of 660 members from the United States, Canada, Australia, Netherlands, United Kingdom, Mexico and other countries, is a resource for anything potentially affecting pregnancy, such as chemicals and medications. It also provides information about how to have a healthy pregnancy. In addition, it publishes the scientific journal, *Birth Defects Research, Parts A, B, and C*. Health care providers, as well as the general public, can preview the annual meeting's full agenda, as well as find information and training the Teratology Society provides, on its website, www.Teratology.org.

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Media Contact: Nicole Chavez, Marketing Consultant, 619-368-3259, nf15@aol.com.