MedicalXpress

Researcher links potentially deadly infection, frequent cow exposure

February 18 2010

A common bacteria found in many healthy adult females that can cause life-threatening infections when passed to newborns could be introduced to some women through frequent contact with cows, according to a research team led by a Michigan State University pediatrician.

The recently published findings that Group B streptococcus could be a zoonotic disease - transmitted between different species - may have significant public health implications, said Dele Davies, chairperson of MSU's Department of Pediatrics and Human Development.

GBS, first recognized as a bacterium that leads to infections in the breasts of cows, is now found in up to 36 percent of pregnant women in their digestive or genital tracts. When passed to newborns during pregnancy, the infection can be severe - leading to death - though not all infants become sick.

While GBS affects only 1 in every 2,000 babies, and there are prenatal tests to identify it, Davies said understanding how women are infected could greatly reduce transmission rates.

Efforts have been made to understand the risk factors that lead to transmission from mothers to babies, but it hasn't been established how mothers originally acquire it, Davies said.

As part of the study, Davies, fellow MSU professor Shannon Manning and a team of MSU researchers conducted a cross-sectional cohort study

of 68 families and their livestock, collecting and comparing stool specimens. Increased frequency of cattle exposure was significantly associated with human infection, and one couple shared the same GBS strains as their cows, suggesting zoonotic transmission.

"Our study suggests that for at least some women, there is an association between increased exposure to cattle and colonization of the bacteria," he said. "Though GBS human infection has long been suspected as originating from cows, several investigators have suggested that ongoing interspecies transmission is unlikely.

"The possibility of ongoing transmission between humans and their livestock has not been systematically examined, and future studies are needed."

More information: The research was published in PLoS One, a journal published by the nonprofit Public Library of Science, at www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0008795 .

Provided by Michigan State University