

news THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT DALLAS

southwestern medical school ■ graduate school of biomedical sciences ■ school of allied health sciences

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******March of Dimes grant to study effects of breast-feeding and antibiotics in protection of newborns from E. coli K1 meningitis.*

DALLAS--Whether breast-feeding and early antibiotic treatment can prevent or modify infection of newborns by deadly strains of intestinal bacteria will be studied by Dr. George H. McCracken Jr., associate professor of pediatrics and Dr. John D. Nelson, professor of pediatrics at The University of Texas Health Science Center at Dallas, Southwestern Medical School. The study is supported by a \$60,000, two-year March of Dimes clinical research grant announced by university officials and Joseph F. Nee, president of The National Foundation-March of Dimes.

The bacteria under investigation, E. coli K1, have been found in the intestines of about 1 in 5 newborns in North and South America. In most instances, infants acquire it from their mothers shortly after birth and are not affected adversely. In approximately one per cent of these colonized infants, the organism invades the blood and cerebrospinal fluid. Resulting meningitis and septicemia (blood infection) cause death in up to 50 per cent of individuals, or brain damage in surviving infants.

Why this organism causes disease in some infants while sparing others is not clear, but it has been reported that bottle-fed babies are more susceptible than breast-fed ones.

Drs. McCracken and Nelson will try to learn whether and how breast milk protects newborns from E. coli K1 meningitis. They will test mothers' milk for amounts and types of white blood cells, their capacity to react to bacteria, antibodies directed against K1, and for presence of that and other types of bacteria. Bottle- and breast-fed infants will be tested soon after birth and at ages one and four weeks, and the findings will be compared in order to determine how many in each group acquire E. coli K1 from their mothers, and how many acquire other, harmless bacteria that crowd out potentially dangerous ones.

Other questions to be explored are whether antibiotics interfere with growth of normal intestinal bacteria in newborns, and whether breast-feeding helps control viruses which may cause severe diarrhea.

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