

SOUTHWESTERN NEWS

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BABY'S DEATH LEADS FAMILY TO ESTABLISH MENINGITIS FUND

DALLAS – May 1, 1998 – When 11-month-old Mateen Moharram died swiftly and suddenly from bacterial meningitis last Nov. 20, his family felt helpless and overwhelmed with grief. To make sense of their tragedy, they have set up a fund to support research at UT Southwestern Medical Center at Dallas that may save other young children from the disease.

Mateen's family is hoping to raise money from family, friends and others interested in preventing the deadly disease. The Mateen Moharram Fund will aid UT Southwestern researchers in their studies of antibiotic-resistant meningitis bacteria and new vaccines.

Three types of bacteria are responsible for bacterial meningitis in children: *Haemophilus-b* (Hib), meningococcus and *Streptococcus pneumoniae*, said Dr. Trudy Murphy, associate professor of pediatrics. The type of bacteria and where it invades the body determines the severity of the illness. Prior to 1990, the year when a Hib vaccine was first introduced, *Haemophilus-b* accounted for 70 percent of childhood meningitis cases. Now this effective vaccine prevents almost all Hib meningitis in children.

Extensive research conducted at UT Southwestern by members of the pediatric infectious diseases unit, headed by Dr. George McCracken Jr., a professor of pediatrics and holder of the Sarah M. and Charles E. Seay Chair in Pediatric Infectious Diseases, contributed to the development of the Hib vaccine.

Mateen had received the Hib vaccine. But as yet, there are no effective vaccines approved for children under age 2 for *Streptococcus pneumoniae* and most types of meningococcus, Murphy said, although several vaccines currently are undergoing testing. In Mateen's case, three-quarters of his brain had been attacked by *Streptococcus pneumoniae*. The bacterial invasion caused a stroke.

"Within 36 hours, he had gone from being a fussy baby at the pediatrician's office with fever to a little boy

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in a specialized children's hospital whose brain was no longer functioning," said his mother, Nagia Moharram.

She hopes that the Mateen Moharram Fund will help to accelerate knowledge of the manifestations of the illness and its possible treatments. The illness can be mistaken for flu because its early symptoms include fever, headache, neck pain and stiffness.

"Parents and doctors need to learn more about the signs of meningitis," she said. "In retrospect, there were signs, but I didn't recognize them. At the hospital nearby where we first took Mateen, the doctors didn't consider meningitis first. They thought flu; then they thought maybe herpes simplex was invading his brain."

Streptococcus pneumoniae normally attacks the nose or throat and may reside there without any effect to the body, Murphy said. It can cause middle-ear infections or bacterial pneumonia, and, in rare instances, invade the brain and cause meningitis -- inflammation of the membranes surrounding the brain and spinal cord. When the bacteria does reach the brain via the bloodstream, it often demonstrates a guerrilla-like resistance to antibiotics.

In 1995, Murphy and data research coordinators Patricia Pastor and Francinne Medley studied the spread of disease caused by *Streptococcus pneumoniae* among 1.9 million Dallas County residents. The incidence of disease was highest for children aged 2 and under, they said. Their results, published in the March 1998 issue of *Clinical Infectious Diseases*, will help serve as ammunition to combat the treacherous bacteria.

"The challenge with *Streptococcus pneumoniae* vaccine development is that there are many more strains of bacteria than with *Haemophilus-b*," Murphy said. "At least seven strains are commonly seen in infections in children. Efficacy trials for a vaccine covering up to nine strains are under way nationally, and there has been significant progress."

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