Doctor says cluster of cancer cases merits investigation

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GONZALES — Three children who live within six miles of each other were diagnosed with a rare form of cancer within 14 months of each other.

Rhabdomyosarcoma, a highly malignant, soft-tissue tumor, is diagnosed in an estimated one in 250,000 children nationwide; about 200 new cases are diagnosed each year in the United States, according to the American Cancer Society.

Statewide, only 15 cases of rhabdomyosarcoma were diagnosed in children under the age of 15 in Louisiana between 1988 and 1992, according to preliminary data from the Louisiana Tumor Registry.

A cluster of three cases in such a small geographic area and time frame is unusual, to say the least, and warrants investigation, said Dr. Sheila Moore, the pediatric oncologist who treated all three children.

A state health department official said he will look at the apparent cluster to determine whether a study should be done.

There were fewer than 16,000 children under the age of 15 living in Ascension Parish in 1990, according to the U.S. Census Report.

Another possible cluster of rhabdomyosarcoma occurred in Zachary several years ago, Moore said. The oncologist said she treated four children who lived in the

See CLUSTER, Page 8N
same zip code and reported her findings to the state health department. However, no investigation was launched and all four children are now dead, she said.

The prognosis is better for the three Ascension Parish children. Survival rates in rhabdomyosarcoma patients have increased from 25 percent in 1962 to 70 percent today. Survival rates are highest for those patients who are diagnosed and treated early in the disease.

Blake Andermann, 11; Caleb Thomas, 5; and Jason Bourgeois, 13, were all diagnosed with rhabdomyosarcoma between November of 1992 and January of 1994.

All three children were diagnosed in Baton Rouge and flown to St. Jude Children's Research Hospital in Memphis, Tenn., for treatment. All are now off treatment and doing well, returning to St. Jude for periodic checkups which have not revealed any return of their cancers.

With Blake, Caleb and Jason now off treatment, Moore said she is not treating any active cases of rhabdomyosarcoma. What she is seeing more of now is brain tumors and leukemias.

"Until we have a comprehensive, up-to-date tumor registry in full operation, how can we say anything intelligent about clusters? Everything we have now is anecdotal," Moore said.

The Louisiana Tumor Registry is now in the process of completing data analysis for reported cases of cancer statewide for 1988 through 1992, said medical director Dr. Vivien Chen. That information should be available to the public soon, she said.

Jason and Caleb are third cousins, which raises the question of possible genetic factors involved, Moore pointed out. It is especially difficult to point a finger at any specific environmental factors involved in childhood cancer, she said.

Louisiana parents of children with cancer have long been concerned about air and water pollution and industrial discharges as potential cancer-causing agents; said Dr. Charles Pratt, an oncologist at St. Jude. "It is possible that children may be influenced in the uterus and immediately after by environmental factors that are better tolerated by adults," he said. "We just don't know."

Cancer clusters may be caused by genetic factors, lifestyle, environmental exposures, even viruses, Pratt said. There have been chromosomal abnormalities found in rhabdomyosarcoma patients that point a finger toward genetic influence. In fact, there is a suggested corollary between rhabdomyosarcoma and one type of maternal breast cancer. Both Jason and Caleb's mothers said they knew of no cases of breast cancer in their families although various relatives had been struck by other forms of cancer.

Kenneth Lanier, a supervisor for the State Office of Public Health's Section of Environmental Epidemiology, said he will confirm the three cases through the tumor registry, contact Moore and seek permission to review Jason, Caleb and Blake's medical records.
OPH is participating in the Lower Mississippi River Interagency Cancer Study which is attempting to produce a database of all cancer cases in the 11-parish industrial corridor that follows the Mississippi River from Baton Rouge to the Gulf of Mexico, he said. Cancer cases will be pinpointed on a map, overlaid with the U.S. Environmental Protection Agency’s TRI, which shows some of the main points from which toxic chemicals are released. Ascension Parish led the state in toxic emissions to the air in 1993, according to the most recently published TRI.

Even with such specific information, it would be difficult to pinpoint causative factors for clusters of cancers, at least epidemiologists would have some idea of what environmental exposures are in particular areas, Lanier said.

Rhabdomyosarcoma accounts for 5 to 10 percent of all childhood cancers, according to the National Cancer Institute and other sources. It is diagnosed in boys more often than girls and in whites more often than blacks. The disease occurs in an estimated one in every 250,000 white children under the age of 15, according to the American Cancer Society and "The Textbook of Pediatrics." Rhabdomyosarcoma grows from muscle cells. It is an aggressive tumor that can appear in muscular tissue anywhere in the body and is difficult to treat, according to information from St. Jude. It most commonly appears in children in the head and neck area or near the sex organs and bladder. Initial symptoms are usually noticed when the tumor grows large enough to displace or obstruct normal structures; for example, if the genitourinary tract is involved, vaginal bleeding, blood in the urine or obstruction of the flow of urine is common, according to an article in "Pediatric Oncology."

Treatment usually involves surgery, radiation and chemotherapy, according to NCI. Surgery is used to remove as much of the cancer as possible along with some normal adjacent tissue. Radiation therapy uses high-energy x-rays to kill residual cancer cells and shrink tumors; chemotherapy uses drugs to kill cancer cells. Bone marrow transplantation is being studied for recurrent rhabdomyosarcoma. As a children's research hospital, St. Jude has been on the cutting edge of treating rhabdomyosarcoma and has contributed to the dramatic increase in survival rates, according to a spokeswoman. Louisiana children with cancer account for nearly 13 percent of all the patients treated at St. Jude Children's Research Hospital in Memphis, Tenn., since they opened, according to a spokeswoman. Of the 14,000 patients treated at St. Jude since its doors were opened in 1962, some 1,100 have come from Louisiana, said Deirdre Malone. St. Jude's patients come from nearly every state in the country and some 50 foreign countries as well. The hospital is listed in "The Best in Medicine" for having an outstanding reputation for treating childhood cancer.

Louisiana accounts for 567 patients on "active status" at St. Jude; 216 of those come from a four-parish Baton Rouge area. One of the reasons that Louisiana accounts for such a high percentage of St. Jude's patients is because of "referral patterns," Moore explained. A high percentage of Louisiana children with cancer are referred to St. Jude for treatment. However, pediatric oncologists in other states refer to other institutions; for example, many Texas children with cancer go to M.D. Anderson Hospital for treatment. Established by the late entertainer Danny Thomas, St. Jude is a research, treatment and education center for children with cancer and other catastrophic diseases, including AIDS.