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****UTHSCD researchers start brain tumor clinic

DALLAS---Researchers at The University of Texas Health Science Center at Dallas have joined with other pediatric medical specialists in a team effort in the war against brain tumors.

Brain tumors account for 20-25 percent of all childhood cancer, and many physicians say they are the most difficult to treat. Overall, only one in five children with brain tumors survives.

In most cases, explains Dr. Barton Kamen, treatment for pediatric brain tumors has been surgery, alone or with radiation treatment, or with chemotherapy if the tumor recurs. Kamen is associate professor of pediatrics and pharmacology at UTHSCD.

However, patients in the new neuro-oncology clinic at Children's Medical Center are offered the expertise of a "mini-tumor board" for evaluation of each individual case. The patient may have been referred to the brain tumor clinic by his or her pediatrician. Other patients come from the team surgeon's own caseload, and some are referred by other surgeons for consultation.

The clinic's team was organized by Kamen and Dr. Jonathan Ducore, assistant professor of pediatrics. Both are pediatric oncologists. Other physician members include Drs. Frederick H. Sklar, the team neurosurgeon and who is in private practice; Louis Munoz, a pediatric radiologist at St. Paul Hospital trained as an oncologist; and Roy Elterman and Michael Blaw, pediatric neurologists. Elterman is a pediatric neurologist in private practice, and Blaw is professor and vice-chairman of neurology at UTHSCD and also serves as a professor in the school's Department of Pediatrics.

In addition, there are social workers from these different disciplines as well as pediatric nurses and child life and development specialists who are an important part of the team. Therapists in psychology and child and adolescent psychiatry are also available as consultants.

"Recently we have been experiencing new developments in the treatment of brain tumors," says Ducore. "In the past, the standard approach was surgery--maybe you got it this time, maybe you didn't. You might throw in a bit of radiation therapy, a little chemotherapy, but treatments weren't relied on. Once the surgery and radiology were done, the pediatric oncologist felt they didn't have much to offer."

However, says Ducore, recent studies in chemotherapy have "really started to make a difference. A couple of studies have indicated that certain drugs can shrink tumors, even if the response is only transient. In certain cases, it has been shown that the combination of surgery, radiology and chemotherapy are more effective than just using surgery and radiology.

"We wanted to learn to make better use of old agents coupled with new drugs--and the best way to move ahead quickly was to set up a comprehensive brain tumor clinic.

"What we're looking for is not only survival but also for improvement in the quality of life," adds Kamen. "The chemotherapist and the radiologist are not in competition with the surgeon. What we're saying is, we're here to help you take better care of the child."

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Surgeons historically have been reluctant to run the risk of multiple operations when there is recurrence of a brain tumor. When surgery is part of an ongoing patient-care plan that includes the other therapies, the surgeon may be more willing to take a short-term risk and operate again if there is evidence that the radiation and/or chemotherapy treatments have been working.

Kamen stresses that the team is there to act as a community resource to other physicians, not to take patients away from their primary physicians. Even though the surgeon is an important part of the team, in many cases another surgeon will send his patient to the brain tumor clinic for consultation while continuing to manage the case himself. In fact, he will be encouraged to attend regular tumor-board meetings on his case and participate in the group discussion.

While there are similar approaches to the pediatric brain-tumor clinic going on in several other medical centers in the country, Kamen believes the Dallas program, although only several months old, already is taking a leadership role. Not only has a top team been assembled, but the health science center and CMC are in the forefront of clinical research with new drugs.

"We're offering both the best in state-of-the-art treatments and advancing knowledge. We're pushing the frontiers of oncology back in the new clinic," says Ducore. "If there is an applicable protocol, we start with that. If these don't work, we look for another. If these treatments aren't successful, we get more aggressive with new drugs and perhaps multiple surgeries."

Both Kamen and Ducore are working to develop better chemical compounds to fight cancer as well as trying to determine the best combinations of drugs. It is also important, they say, to find the most effective doses and time frames for giving them to individual patients in the clinic.

"We're in the position to bring the drugs from the lab straight into the clinic," Kamen explains. "In addition, at this school we can just walk up the stairs to pharmacology or cell biology, where there are researchers on the forefront of scientific investigation, and get any help we need. Our peers there are eager to help us with our research."

Also, Kamen and Ducore are working with the newest drugs being explored by the Pediatric Oncology Group, a coalition of more than 40 institutions around the country that treat children with cancer. Kamen is chairman of the group's sub-committee on new agents in pharmacology and reviews all the new drug therapies initiated by the group. This fall Kamen will present a paper on the pharmacology of oncology at the sixth annual International Conference on Brain Tumors.

The pediatric oncologist says he has been in "the brain tumor business" for only two years. However, he has been working with the use of methotrexate for about 10 years. Methotrexate has been used since 1950 in the treatment of leukemia and is now an important part of treatment approximately 60 percent of the time.

But why it works and why it is effective with some patients and not others is a subject that interested Kamen. He currently is looking at MFX and other similar alkylating agents with brain tumor patients. (Alkylating agents are substances that introduce an alkyl radical into a compound in place of one of its hydrogen atoms.)

"If we can predict who will do well and who won't do well with a particular drug therapy, we can avoid both unnecessary toxicity to the child and wasted time," Kamen says.

The researcher also is interested in exploring the possibilities of using methotrexate as a "targeted drug." This kind of "targeted drug" is one that would selectively seek out only the tumor cells and kill them or send a signal to them to stop dividing and let cells mature normally.

Ducore is working with other types of chemical compounds in his lab, particularly platinum, which have shown to be effective but are highly toxic. "We want to modify these agents so they will have less toxicity with the same efficacy," he says.

Both researchers say they are particularly fortunate in having strong support for their research. Not only are they receiving government funding for much of their work, but this effort has been funded by the Dallas Weekend to Wipe Out Cancer, an annual philanthropic event.

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However important the lab research is to the overall effort to find new and better treatments for brain tumors, the individual patient still comes first.

"Our first goal as physicians is to do whatever is best for the patient," says Kamen. "I won't lie, and I won't use a protocol at the patient's expense. We may have a one-in-five chance of doing the patient some good, and even in unresponsive cases we can often improve the patient's quality of life from six months to a year."

Juanita Jernigan from Jacksboro, Texas, is one such patient. Juanita celebrated her ninth birthday with the other children waiting for their regular appointments in the oncology clinic at Children's recently. Juanita's mother, Karen Harvey, brought her daughter to a Dallas surgeon on referral from her family physician. Following surgery, Juanita was sent to the brain tumor team at Children's for recommendations on further treatment. So far, Juanita is responding well. Chemotherapy has caused shrinkage of the tumor, and she has been undergoing radiation treatments. Meanwhile, the team keeps a close watch on her case.

The physicians are the first to admit that things do not always go well. Sandra Dow (not her real name) still has trouble talking about the death of Judy, her three-year-old. Judy died in early 1982 following recurrence of her tumor.

"Judy was on experimental drugs that had never been given to a child before," she says. "But Dr. Kamen was always straightforward."

She says that making the choice to try chemotherapy, which proved painful for the child, was difficult. "But I don't have any regrets," she says, "because I would have always wondered if there was anything we could have done."

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