Huntsman leads study on cancer procedure

By Lois M. Collins
Deseret Morning News

The Huntsman Cancer Institute is leading a rare surgical study that spans the United States and Canada to determine if less extensive surgery to remove a rare cartilage cancer works as well as traditional, sometimes deforming surgery.

It is the first collaboration between orthopedic oncologists from the two countries to answer the question. And the United Kingdom may soon join.

Traditional treatment of chondrosarcoma surgery involves taking out large sections of cartilage and bone. Often it requires bone grafts or metal implants. It appears likely that a much more conservative surgery, aided by new surgical technologies, is as effective, according to Dr. R. Lor Randall, director of Sarcoma Services and chief of the SARC Lab at HCI and Primary Children's Medical Center. A sarcoma surgeon, he is also an associate professor of orthopedics at the University of Utah medical school.

Chondrosarcoma, which typically appears in patients over age 30, can arise in any bone in the body, although the cancer is most often seen in "the big bones." It also appears in the hand, feet or pelvis and is very treatable if it's detected early, Randall said. "It can be very painful and problematic from a functional standpoint if caught late," because it becomes very aggressive.

"The tricky part is distinguishing benign tumors from these early or low-grade cartilage cancers," he said. "There's no one perfect test."

Doctors use magnetic resonance imaging, plain radiographs and X-rays, as well as patient history such as symptoms and pain level. Still, "it's not always clear cut," he said.

Enrollment in the study began Dec. 1 and now the goal is to make orthopedic oncologists aware of it.

"Historically the tumor is treated very aggressively with potentially deforming surgery," said Randall. "We're learning perhaps that's overtreatment. So we're using less-invasive
surgeries by trained orthopedic oncologists, trying to prove that these less deforming techniques cure patients just as well."

The study will follow patients at least two years and ideally out to five years. Although patient confidentiality will be maintained, the results go to a central database. It's not randomized. All participants will have the less-invasive surgery. "We think we have enough data to not have to deform half the patients" to prove it works, he said.

With medication clinical studies, patients are usually randomly assigned to receive the study medication or a placebo. Surgery's too dramatic to hide who gets what treatment and "it's not ethically sound" to randomize and inflict a surgery that's more aggressive than it needs to be, Randall added.

Randall and his colleagues are convinced that "from a tumor standpoint, it's just as good and from a functional viewpoint, better."

They use chemical agents with the surgery to kill tumor cells that might not be surgically removed.

Tumor tissue from each surgery will be sent to HCI for molecular study, where researchers hope to find whether molecular signatures can be used to discern actual cancer from its benign counterpart.

Other tissue samples will go to the University of Iowa to look at proteins.

One of the proteins, telomerase, may be important to the formation and biology of the tumors. Determining how the tumors form could lead to improved treatments.

Individual centers in both countries will need to get institutional approval and enroll patients.

The study is sponsored by the National Institutes of Health, the Southwest Oncology Group and The American College of Surgeons Oncology Groups, one of the largest adult cancer clinical trials groups in the world.

Randall designed the study with two other members of the U. School of Medicine faculty, Dr. Julia Crim, associate professor in the Department of Clinical Radiology, and Dr. Lester Layfield, professor in the Department of Pathology, as well as other orthopedic surgeons across the United States.

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Words: 669
Section: Local