Alternative to amputation

Device Bridges Destruction of Joint Tumor

By Tyler Smith

A year ago last April, orthopedic surgeon Bennie Lindeque MMed, PhD, met with a patient suffering from a painfully swollen knee. He knew the visible swelling was the least of the patient’s problems.

That discovery meant another difficult conversation with Sloan, who would face a more aggressive treatment option to halt the cancer’s ruinous march. The tumor-riddled bone would have to be resected, Lindeque told Sloan. Amputating the leg above the lower part of the femur would banish the cancer; Lindeque could also replace the section he removed with cadaveric bone, but that would leave Sloan’s leg stiff and severely limit his mobility. Lindeque did not recommend that course to Sloan.

“The question there is how he would do everyday activities,” Lindeque said, adding that some patients who choose cadaveric bone replacement find the discomfort so great that they later decide simply to amputate the leg above the knee.

Road less traveled. Lindeque offered Sloan a much less frequently available option he believed could rid Sloan of the cancer and preserve his ability to walk. The approach: resect the cancerous bone, insert and anchor rods in what remained of the femur and tibia, and bridge them with a hinged, rotating prosthesis that would allow Sloan to bend and straighten his leg as if he had a knee.

“The goal was to restore his knee function to the point where he could return to the community and resume the activities of daily living,” Lindeque said.

Lindeque, who became aware of the procedure while practicing in his native South Africa, said he was confident the procedure would work and that the prosthesis would serve Sloan well. The titanium and cobalt chromium components are lined with high-density polyethylene to protect the metal from wear and tear, he said.

Bennie Lindeque, MMed, PhD, repaired the damage of an aggressive synovial tumor in patient Tod Sloan with rods connected to a hinged prosthesis that allows movement at the knee joint.

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“The prosthesis is very durable,” he said, noting that the devices last at least 10 years about 90 percent of the time. “The uniqueness is that we can use metallurgic materials to replace major resected parts of the bones and joints and restore functionality to the patient,” he said.

**Filling the void.** Ten years was a good number for Sloan, now 66, who was nearing retirement when he received his cancer diagnosis. He agreed to the procedure, which Lindeque completed in about two-and-a-half hours. Sloan had no surgical complications and is now about 15 months into his recovery. He sees Lindeque every three months. If he is cancer-free at the two-year mark, he’ll need only to make annual visits.

Sloan went through a challenging and painful rehabilitation period (see accompanying story, this issue), but he is now able to drive, walk short distances unassisted, and get around his home in the Dallas area, where he moved after retiring from his position with the School of Medicine.

It’s not the life that he imagined he’d be leading a year and a half ago, but he’s grateful to Lindeque for preserving a measure of independence he’d otherwise have lost.

“He was honest with me about my options,” Sloan said. “He told me that this is what we needed to do to move forward, and I trusted him. His positive attitude was great.”