

Stanford Report, July 25, 2001

Patients gather to praise minimally invasive technique used in treating tumors

By MICHELLE BRANDT

When Jeanie Schmidt, a critical care nurse from Foster City, lost hearing in her left ear and experienced numbing in her face, she prayed that her first instincts were off. "I said to the doctor, 'I think I have an acoustic neuroma (a brain tumor), but I'm hoping I'm wrong. Tell me it's wax, tell me it's anything,'" Schmidt recalled.

It wasn't wax, however, and Schmidt – who wound up in the Stanford Hospital emergency room when her symptoms worsened – was quickly forced to make a decision regarding treatment for her tumor.

On July 13, Schmidt found herself back at Stanford – but this time with a group of patients who were treated with the same minimally invasive treatment that Schmidt ultimately chose: the CyberKnife. She was one of 40 former patients who met with Stanford faculty and staff to discuss their experiences with the CyberKnife – a radiosurgery system designed at Stanford by John Adler Jr., MD, in 1994 for performing neurosurgeries without incisions.

"I wanted the chance to thank everyone again and to share experiences with other patients," said Schmidt, who had the procedure on June 20 and will have an MRI in six months to determine its effectiveness. "I feel really lucky that I came along when this technology was around."

The CyberKnife is the newest member of the radiosurgery family. Like its ancestor, the 33-year-old Gamma Knife, the CyberKnife uses 3-D computer targeting to deliver a single, large dose of radiation to the tumor in an outpatient setting. But unlike the Gamma Knife – which requires patients to wear an external frame to keep their head completely immobile during the procedure – the CyberKnife can make real-time adjustments to body movements so that patients aren't required to wear the bulky, uncomfortable head gear.

The procedure provides patients an alternative to both difficult, risky surgery and conventional radiation therapy, in which small doses of radiation are delivered each day to a large area. The procedure is used to treat a variety of conditions – including several that can't be treated by any other procedure – but is most commonly used for metastases (the most common type of brain tumor in adults), meningiomas (tumors that develop from the membranes that cover the brain), and acoustic neuromas. Since January 1999, more than 335 patients have been treated at Stanford with the CyberKnife.

The July 13 meeting began with a presentation by Adler, who provided an historical oversight of radiosurgery and expressed gratitude to the patients who chose to undergo the procedure. "I feel very proud of what I've done, but how can I not appreciate the courage of these patients?" said Adler, professor of neurosurgery and director of radiosurgery and stereotactic surgery at Stanford. "Because of them, patients all over the world are having their surgeries done differently."

Patients also took turns at the podium. Valerie DeGrendele described the years of pain she endured. From the age of 13, DeGrendele experienced frequent episodes of feeling like someone was "repeatedly stabbing me in the neck," followed by paralysis of her right side. Doctors couldn't determine what was wrong with her, and the family chiropractor told her parents that she would be paralyzed for the rest of her life. Other doctors said there was nothing they could do for her. It wasn't until years later, when she was diagnosed as having an arteriovenous malformation – dangerous masses of abnormal blood vessels – on her spinal cord that she was referred to Adler.

“It was the first time in my life that anyone offered me hope,” DeGrendele said. She had the procedure (“I was in and out of there faster than it takes to go grocery shopping,” she noted) and the malformation has since shrunk by 75 percent.

Donald Sabin, a former patient who emceed the event, announced the formation of a patient support group that will not only serve as a resource for CyberKnife patients but will also educate others about the procedure. “We need to take an oath as patients to get the message across that a minimally invasive treatment is available,” he said.