

Robotic Surgery vs. Radiation, Chemo for Throat Cancer

Sheryl Ubelacker, The Canadian Press - Associated Press

It was quite a shock for Rod Sinn when he learned the persistent sore throat he'd had for five months, initially diagnosed as tonsillitis, was actually an increasingly common form of throat cancer caused by the human papilloma virus.

Equally unpleasant was the news that the standard treatment for oropharyngeal cancer, which typically affects the back of the tongue, tonsils and nearby tissues, is radiation and chemotherapy.

Sinn, a physically fit non-smoker who only drinks alcohol occasionally, had seen what the double-barrelled treatment could do. A friend diagnosed with throat cancer a year earlier and given the standard treatment lost his salivary glands and sense of taste.

"I thought, wait a minute, there's got to be another option. I really don't like the side-effects of all that radiation," the 52-year-old businessman, who lives in Oakville, Ont., near Toronto, said Tuesday.

After searching the Internet, he discovered doctors at Western University in London, Ont., were the only ones in Canada performing robotic-assisted surgery for throat cancer.

Sinn had the robotic surgery in spring 2011, plus a follow-up operation to remove some lymph nodes for testing to make sure his cancer hadn't spread. While the surgery left him unable to swallow for several weeks and he lost some taste buds for a time, he is virtually back to normal except for some numbness in his neck where the lymph nodes were removed.

"It was fantastic," said Sinn, who counts himself a believer in the surgery.

While it may be an end for Sinn — he said he "cried like a baby" after being told he was cancer-free two months after the treatment — it is just a beginning of sorts for his surgeon, Dr. Anthony Nichols.

With the help of a \$223,000 grant from the Canadian Cancer Society, Nichols and radiation oncologist Dr. David Palma are conducting a three-year trial to determine whether robotic surgery is superior to standard treatment in curing the cancer and giving patients a better quality of life with fewer side-effects.

Since late 2010, the surgical team has performed about 40 of the robot-assisted operations.

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The clinical trial, which now includes doctors at the University of Ottawa, will compare treatments in almost 70 patients, with half randomly selected for standard treatment using radiation, with or without chemotherapy, and the other half getting robotic surgery.

Although robotic-assisted operations for throat cancer are widely done in the United States, the researchers say there has been no clinical trial proving the surgery is better for patients.

"Before we can adopt a new treatment, we have to prove that the rates of cure are as good as they are with the standard treatment, which is chemotherapy with radiation," said Palma, a clinician-scientist with the Ontario Institute for Cancer Research.

"Sometimes new technologies are introduced with a lot of hype but don't prove to be helpful in the end. Transoral robotic surgery has shown tremendous promise as a treatment option, and we are the only ones in the world doing this type of study right now."

Nichols said that in an era of cost-containment in health care, it's critical to show that using the \$2.5-million robots for the surgery is the right thing to do, "that we're helping patients, not harming them."

"Patients with HPV-related throat cancers tend to be younger and healthier and have a good chance of being cured. As they will have to live with the side effects of treatment for decades, post-treatment quality of life is of paramount importance."

From a surgical point of view, minimally invasive robot-assisted procedures seem to be head and shoulders above standard surgery for throat cancer, which often involves making large incisions in the face and neck, even splitting the jaw to allow the surgeon access to the back of the throat.

Patients who have had this kind of surgery in the past are often left not only facially disfigured, but unable to swallow and dependent on a permanent feeding tube.

With the newer technique, doctors use tiny robotically controlled surgical implements to remove tumours of the tongue, tonsils, palate or throat. The robot has a viewfinder and 3-D camera that can see around corners, and the tiny robotic arms can get into tight spaces where the surgeon's hands won't fit.

While the surgeon watches what's happening on a screen, the robotic arms precisely mimic the movements of the surgeon's hands and can even filter out a surgeon's hand tremor.

"To work in the back of the throat, around the back of the tongue and the voicebox is just a line of sight issue," Nichols said. "You can't see really well around that corner, down towards the esophagus. But if you can use an angled camera to overcome that, combined with the 3D viewer and magnification, it lets you see a lot easier."

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"So it can make surgeries that are very challenging — and in some cases not possible through the mouth — now possible to do through the mouth."

Nichols said in the past, most throat cancers were caused by heavy smoking combined with alcohol consumption. A dramatic reduction in smoking rates over the last few decades has resulted in a big drop in related oral cancer rates.

But in the last 10 to 20 years, there's been a huge upswing in the number of cases caused by the human papilloma virus, or HPV, a sexually transmitted disease that can lead to throat cancer in some people two or even three decades after the initial infection.

In fact, HPV is linked to about 25 to 35 per cent of oropharyngeal cancers, and is also the major cause of cervical cancer in women.

"We're seeing a veritable explosion," said Nichols. "So each year, we're seeing more and more of these patients and they have tumours in this exact location, which was otherwise hard to reach."

Sinn doesn't need to wait for the study results. He's already made up his mind about robotic surgery.

"To me, it's important to let the medical community know this is available," he said. "I'll be the guy standing in the corner waving the flag, saying: 'Hey, this is fantastic.'"

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