

Robotic device appears useful for surgical removal of cancer involving the tonsils

December 17 2007

A new robotic surgery technique appears promising for the removal of cancer involving the tonsil region, according to a report in the December issue of Archives of Otolaryngology–Head & Neck Surgery, one of the JAMA/Archives journals.

Typically, surgeons trying to remove tonsils of patients with cancer through the mouth have limited access to the area, according to background information in the article. If the cancer has spread to any of the surrounding tissues, an open approach involving cutting through the skin is needed. These procedures take a long time, can cause long-term difficulty swallowing and usually require the placement of a tracheotomy tube.

Gregory S. Weinstein, M.D., and colleagues at the University of Pennsylvania, Philadelphia, evaluated the feasibility of a new surgical technique—transoral robotic surgery (TORS)—on 27 participants undergoing radical tonsillectomy for cancer between May 2005 and April 2007. The surgical system consists of a console, where the surgeon sits at a distance from the patient; a surgical cart; three instrument-holding arms and a central arm with an endoscope. This lighted optical instrument with two video cameras offers a three-dimensional view of the inside of the body. The surgical arms are controlled by the surgeon's movement of handles in the console. In TORS, the mouth is held open and incisions are made in the gums, soft palate, tongue and throat muscles to reach and remove the tonsils and any surrounding cancerous tissue.

“The surgeons successfully performed TORS in all cases,” the authors write. “All robotic arms functioned optimally during the procedures, and no interference between robotic arms was noted.” In 25 patients (93 percent), surgeons were able to remove all cancerous tissues. The average length of surgery was one hour and 43 minutes. Following the procedure, 26 out of the 27 patients were swallowing without the use of a stomach tube.

No deaths occurred, and although complications occurred in five of the 27 patients (19 percent), most were resolved without significant consequences. “The early complication rate is comparable to the rates reported for the alternative therapies of non-robotic transoral surgery, open surgical resection and concurrent chemoradiation treatments,” the authors write. Complications—including death, pneumonia or fistula (an opening or passage in the skin or organs)—that are usually reported during these other types of procedures did not occur in the TORS patients.

Source: JAMA and Archives Journals

Citation: Robotic device appears useful for surgical removal of cancer involving the tonsils (2007, December 17) retrieved 21 November 2023 from <https://medicalxpress.com/news/2007-12-robotic-device-surgical-cancer-involving.html>

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