Long-term study: Robot-assisted prostate surgery is safe

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In the first study of its kind, urologists and biostatisticians at Henry Ford Hospital have found that robot-assisted surgery to remove cancerous prostate glands is safe over the long term, with a major complication rate of less than one percent.

The findings, published online this month by the journal *European Urology,* follow an earlier Henry Ford study that found nearly 87 percent of patients whose cancerous prostates were removed by robot-assisted surgery had no recurrence of the disease after five years.

"We have always felt that robotic surgery for prostate cancer was safe, but there have been no studies that have looked at long-term safety. This is why the Henry Ford study is so important," says Mani Menon, M.D., director of Henry Ford's Vattikuti Urology Institute.

The new research analyzed the surgical outcomes of more than 3,000 consecutive patients at Henry Ford's Vattikuti Urology Institute from January 2005 to December 2009, and addressed "the lack of standardized reporting" that hampered previous published literature on complications of radical prostatectomy (RP).

In RP, the entire diseased prostate gland and some surrounding tissue are surgically removed, in hopes of preventing the cancer from spreading to other parts of the body.

Henry Ford Hospital pioneered the use of robots to assist surgeons in the

delicate procedure, and the new study notes that robot-assisted radical prostatectomy (RARP) is now the most common technique in the U.S. for treating localized prostate cancer.

The Henry Ford researchers found only one previous report on complications of RP that had adhered to uniform surgical reporting standards. However that study looked at open and laparoscopic prostatectomy, and did not include robot-assisted RP.

Confronted, in a sense, by "apples and oranges" comparisons of several RP surgical techniques, the Henry Ford researchers set out to produce a five-year safety study that both concentrated on RARP and incorporated an exhaustive collection of data, covering everything from length of hospital stay, to an in-depth examination of other diseases afflicting the patients, but unrelated to their cancers.

Among the study group of 3,317 RARP patients, researchers found a median hospitalization time of only one day. There were 368 complications in 326 of the patients - or 9.8 percent of the total - most of which were minor and occurred within 30 days of the surgery.

A patient's prostate-specific antigen (PSA) scores before surgery, as well as cardiac disease, were found to predict medical complications after the robot-assisted surgery; age, gastroesophageal reflux disease (GERD), and biopsy score predicted possible surgical complications.

The researchers' main conclusion was that "RARP is a safe operation."

Henry Ford's robot-assisted urology program uses a surgeon-controlled robot, the da Vinci minimally invasive surgery system.

It enables surgeons to manipulate robotic arms for precise procedures through a series of small incisions, instead of the large wounds required

by traditional "open" surgery, and provides 3-D monitoring for the entire surgical team.

The potential benefits for the patient include shorter recovery times, less trauma, and reduced hospitalization costs.

It is also the basis of a "nerve-sparing" procedure called the Veil of Aphrodite, developed at Ford, to minimize the erectile dysfunction common in men after undergoing traditional radical prostatectomy.

"While these results provide strong endorsement for robotic surgery, we want to emphasize that the results are dependent more on the surgical team that controls the da Vinci robot rather than just the robot," Dr. Menon states.

Provided by Henry Ford Health System