

Minimally invasive radical prostatectomy shows advantages, but also certain complications

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New research indicates that the use of minimally invasive procedures (including the use of robotic assistance) for radical prostatectomy, which have increased significantly in recent years, may shorten hospital stays and decrease respiratory and surgical complications, but may also result in an increased rate of certain complications, including incontinence and erectile dysfunction, according to a study in the October 14 issue of *JAMA*, a theme issue on surgical care.

Jim C. Hu, M.D., M.P.H., of Brigham and Women's Hospital, Boston, presented the findings of the study at a *JAMA* media briefing in Chicago.

Minimally invasive radical prostatectomy (MIRP), in particular with the use of robotic assistance, has increased from 1 percent to 40 percent of all radical prostatectomies from 2001 to 2006, according to background information in the article. But this rapid increase has occurred despite limited data on outcomes and greater costs compared with open retropubic radical [prostatectomy](#) (RRP; surgery in which an incision is made in the lower abdomen to remove the prostate, which is located in the pelvis behind the pubic bone).

"Moreover, the widespread direct-to-consumer advertising and marketed benefits of robotic-assisted MIRP in the United States may promote publication bias against studies that detail challenges and suboptimal

outcomes early in the MIRP learning curve. Until comparative effectiveness of robotic-assisted MIRP can be demonstrated, open RRP, with a 20-year lead time for dissemination of surgical technique relative to MIRP, remains the gold standard surgical therapy for localized [prostate cancer](#)," the authors write.

Dr. Hu and colleagues assessed the outcomes for men with prostate cancer who underwent MIRP (n = 1,938) vs. RRP (n = 6,899), using U.S. Surveillance, Epidemiology, and End Results Medicare linked data. During the study period, the use of MIRP increased almost 5-fold, from 9.2 percent in 2003 to 43.2 percent in 2006-2007.

After analyses, the researchers found that men undergoing MIRP vs. RRP experienced shorter hospital length of stay (median [midpoint], 2.0 vs. 3.0 days), were less likely to receive transfusions (2.7 percent vs. 20.8 percent), and were at lower risk of postoperative respiratory complications (4.3 percent vs. 6.6 percent) and miscellaneous surgical complications (4.3 percent vs. 5.6 percent).

"However, men undergoing MIRP vs. RRP experienced more genitourinary complications [involving the genital and urinary organs or their functions; 4.7 percent vs. 2.1 percent) and were more often diagnosed as having incontinence and erectile dysfunction. The need for additional cancer therapies was similar by surgical approach," the authors write.

The researchers also found that greater receipt of MIRP vs. RRP was associated with living in areas of higher [socioeconomic status](#) based on education and income, and that this may be the result of a "highly successful robotic-assisted MIRP marketing campaign disseminated via the Internet, radio, and print media channels likely to be frequented by men of higher socioeconomic status."

"In light of the mixed outcomes associated with MIRP, our finding that men of higher socioeconomic status opted for a high-technology alternative despite insufficient data demonstrating superiority over an established gold standard may be a reflection of a society and health care system enamored with new technology that increased direct and indirect health care costs but had yet to uniformly realize marketed or potential benefits during early adoption," the authors conclude.

More information: *JAMA*. 2009;302[14]:1557-1564.

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