Prostate Cancer Health Center

Pre-op MRI May Prevent ED After Prostate Surgery

Imaging Helps Surgeons Decide If Nerves Can Be Safely Spared During Surgery for Prostate Cancer

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May 7, 2010 -- Doing a preoperative MRI of the prostate may help surgeons better decide when they can safely spare the nerve bundle that controls a man's erections and continence, according to a new study.

"The use of imaging can help a surgeon make a better clinical decision about what he or she does during surgery," says Robert Reiter, MD, Bing Professor of Urology and director of the prostate cancer program at the University of California Los Angeles' David Geffen School of Medicine.

The research was presented Thursday at the annual meeting of the American Roentgen Ray Society in San Diego.

But the study is too small and the results not yet convincing enough to change practice, says J. Brantley Thrasher, MD, chair of the department of urology at the University of Kansas Medical Center in Kansas City, Kan. He reviewed the study results for WebMD.

Prostate Surgery Concerns

In the U.S., the most popular surgery to remove the cancerous prostate gland is robotic assisted laparoscopic prostatectomy or RALP, with about 70% of the procedures performed in this way, Reiter tells WebMD.

Surgeons must decide, when doing the prostate removal, whether to spare the neurovascular bundle, which lies below and to the side of the prostate gland and controls erections and continence.

The surgeon must strike a delicate balance, Reiter says, between sparing the nerve bundle and preserving the ability to get erections and getting all the cancer. Currently, a surgeon decides whether to spare those nerves (totally or partially) based on the biopsy and the level of PSA, or prostate specific antigen, in the blood.

Reiter and his team wanted to see if adding MRI, already suggested to help in other research, could make a difference in guiding the surgical decision.

"Our ability to determine the extent of prostate cancer is limited," he says.

Pre-op MRI: Study Details

The UCLA researchers evaluated 104 men who had biopsy-diagnosed prostate cancer. Reiter was the surgeon for all.

Based on the biopsy and other information, "I would say whether the plan was nerve-sparing or non-nerve-sparing surgery," he says.

Then he looked at the results of the MRIs.

For 29 of the 104 men, he changed the plan based on the MRI. "Sometimes I did a more aggressive surgery," he says, and sometimes less aggressive, sparing some or all of the nerves.

Of the 29 whose plan changed, 17 had nerve-sparing procedures and 12 had the plan changed to non-nerve sparing surgery.
"What we found is, 30% of the time I changed what I was going to do with the neurovascular bundle based on the MRI finding," Reiter tells WebMD.

Then they looked at the positive margin rate, a measure of whether all the cancer was removed, for the entire group (the goal is negative margins). Overall, the positive margin rate was 6.7%, or seven of 104 patients. Only one of those was a man whose MRI results changed the plan to nerve-sparing surgery.

None who had their plan changed to a non-nerve-sparing procedure had positive margins.

According to Reiter, the average positive margin rate is about 20%.

**Pre-op MRI: Other Opinions**

The study is too small to trigger a change in practice, says Thrasher.

"Most doctors don't use the pre-op MRI because it is not sensitive enough or specific enough," he says.

He says other studies have shown a positive margin rate similar to that found in the UCLA study "and they have not used MRI."

"Based on this study, I am not sure they have proven anything," he says. "I would have to have this confirmed by a much larger, randomized study."

"I don't know if we can say we need routine MRI based on this," says Benjamin Yeh, MD, associate professor of radiology at the University of California, San Francisco, who also reviewed the study results for WebMD.

Although Reiter acknowledges the study sample is small, he says theirs confirms at least one other study that has found success with pre-op MRIs before prostate surgery.

He cautions, however, that the MRI used requires special equipment and expertise by the radiologist performing it.

About 192,280 men in the U.S. get prostate cancer annually, according to estimates from the American Cancer Society.