Robot-assisted, Retropubic Radical Prostatectomy shows similar outcomes

Robotic approach offers minimal blood loss and shorter hospital stay

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Glasgow, Scotland—Results of the first prospective comparison of robot-assisted prostatectomy and traditional radical retropubic prostatectomy show comparable outcomes in margin status and complication rates. Although the robotic approach proved to be a slightly longer procedure, patients experienced less blood loss and pain and were discharged earlier from the hospital, researchers report.

Ashutosh Tewari, MD, working with Mani Menon, MD, of the Vattikuti Urology Institute in Detroit, compared the procedures using the daVinci Surgical System (Intuitive Surgical, Sunnyvale, CA) for the robotic approach and the Walsh technique for the retropubic approach. The team’s experience to date shows that patients treated with the robotic procedure were able to return home after 1 day while those receiving the traditional procedure remained in the hospital for 3 days.

“The robotic technique-Vattikuti Institute Prostatectomy (VIP)—allows 3D visualization, intuitive movement of the instruments, and 360 degrees maneuverability of the instrument tips through the laparoscopic ports,” Dr. Tewari said during the British Association of Urological Surgeons annual meeting here.

The researchers compared operative variables in the first 200 patients undergoing VIP with 100 contemporary patients undergoing the retropubic approach at the same institution over a 24-month period from August 2001 to October 2002. They evaluated the following parameters:

- intraoperative variables, including the length of the procedure, blood loss, need for transfusion, and the number of units transfused
- patient and tumor characteristics at baseline, including age, serum PSA, biopsy, Gleason score, clinical stage, body weight, and height
- postoperative variables, including pain score, length of stay, percentage of patients discharged in less than 1 day, catheter duration, histopathologic variables, and complications.

Less pain in robot-assisted group
The average blood loss was 970 mL in the retropubic group compared with 329 mL in the VIP group. (p.001). There was a greater fall in hemoglobin in the retropubic RP group (4.4 grams vs. 1.2 grams, p.05), and more units of blood were transfused in the retropubic group (27 vs. six, p.05).

“The mean pain score on day one after surgery was 7 in the RRP group compared with 4 in the VIP group (p.05),” said Dr. Tewari, Josephine Ford Scholar at the Vattikuti Institute and the Josephine Ford Cancer Center. “The average hospital stay in the RRP group was 56 hours compared with less than 24 hours in the VIP group, but this difference failed to reach statistical significance.”

In addition, 93% of the VIP group was discharged within 23 hours, while none of the RRP patients was discharged over the same period (p.001). Dr. Tewari said his team also was able to handle a large prostate with significant median lobes.

There were no differences in pathologic stage and PSA levels between the two groups. The rate of margins was better with the VIP group, although this difference did not reach statistical significance.

“Although VIP takes longer than RRP, there is only minimal blood loss, the patients suffer less pain, and they are discharged earlier,” Dr. Tewari said. “I believe that our group has now obtained enough experience with the technique to ensure that there are no differences in the outcome and complication rates between the two groups.

“In addition, once you use the robot, it is difficult to go back.”

Dr. Tewari noted that cost issues associated with the robot are currently being evaluated in an ongoing prospective study.

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