How does robot-assisted radical prostatectomy (RARP) compare with open surgery in men with high-risk prostate cancer?

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Abstract

WHAT'S KNOWN ON THE SUBJECT? AND WHAT DOES THE STUDY ADD?: Previous studies have shown that robot-assisted radical prostatectomy (RARP) can be performed in men with high-risk prostate cancer with similar outcomes to that of open surgery. However, most of the literature consists of small case series and compares RARP outcomes to open outcomes from the literature. This study compared a cohort of high-risk patients undergoing open RP and RARP at a single institution with good follow up. We found no difference in positive margin rates or likelihood of prostate cancer recurrence. This adds to the growing evidence that RARP is a safe option for men with high-risk disease.

OBJECTIVE: To compare oncological outcomes in high-risk patients who underwent open retropubic radical prostatectomy (RRP) and robot-assisted RP (RARP) at a single institution. Despite equivalent oncological outcomes between open RRP and RARP, the use of RARP in men with high-risk tumours has been debated.

PATIENTS AND METHODS: A retrospective analysis of high-risk patients treated with open RRP or RARP at UCSF from 2002 to 2011 was conducted. The relationship between surgical approach and positive margin rate was assessed by multivariate logistic regression Cox proportional hazards regression assessed the effect of surgical approach on time to tumour recurrence.

RESULTS: In all, 177 open RRP and 233 RARP patients made up the final cohort for analyses. The mean (SD) age was 61.6 (6.6) years and the median (range) follow-up was 27 (2-112) months. RARP patients had less blood loss (median 200 vs 400 mL, P < 0.01) and underwent complete bilateral nerve sparing more often (54% vs 34%, P < 0.01) than those undergoing open RRP. There were no differences by approach in pathological grade, stage, or positive margin rates. However, there was a trend towards higher positive margin rates with RARP early on. Recurrence-free survival was similar at 2 years (84% and 79%) and 4 years (68% and 66%) after open RRP and RARP, respectively (log-rank P = 0.53).

CONCLUSIONS: This study is novel in that it assesses outcomes of open RRP vs RARP in a cohort of high-risk men at a single institution. RARP appears to be a feasible option for men with high-risk prostate cancer and displayed equivalent oncological outcomes compared with open RRP.

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