



European Association of Urology



Words of Wisdom

Re: Comparative Effectiveness of Minimally Invasive vs Open Radical Prostatectomy

Hu JC, Gu X, Lipsitz SR, et al

JAMA 2009;302:1557–64

Experts' summary:

Hu and colleagues should be commended for their recent *JAMA* publication comparing open and minimally invasive radical prostatectomy (MIRP). Using the newest release of the Surveillance, Epidemiology, and End Results (SEER)–Medicare linked database, they documented a rapid increase in the number of MIRPs being performed within SEER regions and found no apparent difference in the use of postoperative cancer therapy. Not surprisingly, they report that MIRP patients had a shorter length of hospital stay (by approximately 1 d) and lower rates of blood transfusions (2.7% vs 20.8%). Interestingly, MIRP was associated with higher risk of genitourinary complications (4.7% vs 2.1%), diagnosis of incontinence (15.9 vs 12.2 per 100 person-years), and diagnosis of erectile dysfunction (26.8 vs 19.2 per 100 person-years) than open radical retropubic prostatectomy (RRP). With this new information, the comparative effectiveness analysis of radical prostatectomy surgical approaches is unclear: Is one surgical approach better than the other?

Experts' comments:

The limitations of this study must be considered prior to reaching any conclusions about the superiority of one surgical approach over another. All observational studies are subject to selection bias. Hu and colleagues found substantial differences between MIRP and RRP patients in terms of tumor characteristics and area-level socioeconomic variables. Although their multivariable analysis controlled for the measurable differences between the groups, it is the unmeasured confounders that are worrisome and that may have influenced the results. For example, differences attributed to surgical approach may instead be related to individual-level socioeconomic variables or even to surgeon experience.

Differences in erectile function and incontinence rates were Hu et al's most provocative findings, but again, these findings must be interpreted with caution. Using administrative claims data for comparing functional outcomes

(eg, erectile dysfunction, incontinence) can be problematic. A functional outcome like incontinence has a wide spectrum of severity that is not captured in claims-based datasets. Specifically, diagnosis codes are “softer” end points than procedure codes. In their online appendix, Hu et al list the specific diagnosis and procedure codes used to capture their outcomes of interest, which were based on earlier work by Begg et al [1]. The major differences in erectile dysfunction and incontinence between MIRP and RRP were driven by the diagnosis codes, not the procedure codes. In a similar analysis of the same dataset (unpublished data), our group compared incontinence rates based only on procedure codes, and we found no difference in incontinence rates between RRP and MIRP patients. We believe that diagnosis codes for incontinence are subject to substantial variability secondary to individual surgeon coding practices and possibly to patient expectations.

The limitations of this and other observational claims-based studies highlight the importance of prospective studies using validated instruments to gauge postoperative erectile function, continence, and quality of life. We need more comparative effectiveness studies that use both population-based datasets and prospective cohorts before proclaiming the optimal surgical approach to radical prostatectomy. Claims that MIRP is superior to RRP are not supported by the current literature. The findings of Hu et al are a piece of the comparative effectiveness puzzle, but there are still many unanswered questions for patients and physicians choosing between MIRP and RRP.

Conflicts of interest: The authors have nothing to disclose.

Reference

- [1] Begg CB, Riedel ER, Bach PB, et al. Variations in morbidity after radical prostatectomy. *N Engl J Med* 2002;346:1138–44.

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