

Platinum Priority

Reply from Authors re: Anders Bjartell “A Robot Saved My Life”: Is It a Myth? Eur Urol 2012;62:775–6

The Debate on the Oncologic Safety of Robotics in Prostate Cancer Is Over: Time to Move On

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We read with interest the editorial by Bjartell [1] on our paper [2] published in this month's *European Urology*. Our work represents the largest study to date on oncologic outcomes after robot-assisted radical prostatectomy (RARP) on patients with at least 5-yr follow-up [2]. It demonstrates that RARP has satisfactory medium-term biochemical recurrence (BCR) outcomes at a single, pioneering European center. Bjartell [1] is correct to point out that BCR does not necessarily lead to cancer-specific mortality (CSM) and that our study [2] does not have long enough follow-up to evaluate this hard end point. Nevertheless, given the favorable BCR rates in the Karolinska cohort, comparable with similar open series [3], there is no reason to suspect that these BCR outcomes will not translate into satisfactory mortality rates in the longer term, as with open radical prostatectomy (ORP). We will confirm this with continued follow-up of our RARP cohort. Bjartell [1] is incorrect to suppose that the lack of lymph node status in our cohort [2] is due to selective reporting of lower-risk cases, as this analysis represents our entire early series. Despite this, our cohort is generally more high risk than other contemporary RARP series.

In our analysis [2], we demonstrated that margin positivity was associated with an increased rate of recurrence, and this was both a stage-dependent and stage-independent phenomenon. Bjartell [1] highlights that many of our RARP patients with positive surgical margins (SMs) are destined not to recur and postulates that the importance of a focal positive SM may be limited, as has been suggested in some ORP studies [4–6]. To address this, we are currently reviewing our margin-positive cases with a single uropathologist and will investigate the effects of focality, length, and location of positivity on recurrence rates. We will also examine this issue in a multi-institutional setting as part of the newly formed European Robotic Urology Society (ERUS) Scientific Working Group (SWG).

Bjartell [1] is also correct that oncologic outcomes for most contemporary RARP series are expected to be favorable, given the disease characteristics of many patients. We would stress that our report [2] pertains to the first RARP cohort operated on at Karolinska University Hospital and thus represents patients treated as far back as January 2002. Active surveillance strategies for low-risk

patients were not well established at that time. Furthermore, the purpose of our study was not to compare outcomes of surgery with surveillance, neither was it to show superior oncologic outcomes for RARP versus ORP. It was, rather, to demonstrate that a relatively new technology that is still a minority procedure in Europe and in the world outside the United States is oncologically safe and achieves results similar to comparable ORP series. We believe this study to be the best evidence currently available in the literature to support this statement.

Another important finding from our study [2] is the effect of surgeon case volume on BCR outcomes after RARP, something that has never been previously reported. We have previously demonstrated that positive SM rates decrease as robotic surgeons become more experienced [7], and our current analysis shows that those surgeons with the lowest volume (<50 prior cases) have recurrence rates more than twice that of more experienced surgeons (>150 cases), even after controlling for other factors. This difference in outcome is greater than that attributable to prostate-specific antigen (PSA) >10 compared to <10, pT3a disease compared to pT2 disease, and positive SM status compared to negative margins. Hence, the surgeon is a key determinant of oncologic outcome in RARP, something never before demonstrated. Bjartell [1] is correct that this finding requires further investigation, and robotic centers need to invest in training programs to ameliorate this learning curve effect. We are currently performing a multi-institutional learning curve study, again as part of ERUS SWG, to examine the learning curve for RARP in more detail.

One of the oft-cited disadvantages of RARP over ORP, and one that Bjartell [1] also highlights, is cost. However, a high-quality cost analysis study in this field has not been performed. We recently showed in a meta-analysis of 286 876 radical prostatectomy (RP) patients that transfusion rates, hospital stays, readmission rates, and numbers of intra- and perioperative complications were higher for open than robotic surgery [8]. Hence, simply evaluating procedural costs is crude and oversimplistic, and sophisticated health economic models are required to factor in the above differences before definitive conclusions regarding comparative costs can be made.

We wholeheartedly agree with Bjartell [1] that the role for surgery in the management of high-risk prostate cancer (cT3–cT4, PSA > 20, Gleason score 8–10) needs further investigation. We are currently collaborating with the European Multicenter Prostate Cancer Clinical and Translational (EMPaCT) study group, which has virtually complete demographic, clinicopathologic, comorbidity, and oncologic follow-up data on more than 5600 surgically treated high-risk prostate cancer patients from 11 centers (10 European and 1 US). We will compare RP data (regardless of modality) from EMPaCT with data on radiation therapy with or without hormones from the National Prostate Cancer Registry of Sweden. One of the problems with other comparative effectiveness studies is the use of BCR as the

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end point, and we have previously commented on the difficulties using this outcome [9]. The advantage of our project is the availability of hard survival end points like CSM and other causes of mortality for treatment comparisons and the ability to adjust for competing risks of mortality. In a separate endeavor, again under the auspices of ERUS SWG, we will examine oncologic outcomes after RARP in high-risk patients.

We are grateful to Bjartell [1] for his thoughtful editorial on our paper [2] and glad that our work has helped convince RP surgeons that RARP is oncologically safe (a very different situation from when we started performing RARP in 2002). It is indeed time to move on to investigate other pertinent research questions regarding surgery and robotics in prostate cancer.

Conflicts of interest: The authors have nothing to disclose.

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