



Editorial – referring to the article published on pp. 1037–1063 of this issue

Surgery and Marketing: Comparing Different Methods of Radical Prostatectomy

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A remarkable paper in this issue reports the results of an analysis of the scientific literature on differences between the main variants of radical prostatectomy (RP) [1]. The large and diverse team of authors, consisting of many of the top experts of the science and practice of RP, has evaluated the comparative studies of RP in the three major variants that are practiced today: open retropubic RP (RRP), conventional laparoscopic RP (LRP), and robot-assisted laparoscopic prostatectomy (RALP). The objective was to assess whether any method is better than the others in view of perioperative, functional, and oncologic outcomes.

The conclusion at which the authors arrive is that the “available data were not sufficient to prove the superiority of any surgical approach in terms of functional and oncologic outcomes.” It may be assumed that some hard bargaining went on before the group agreed on this statement. This is shown by the statement that “it might be hypothesized that more solid and accurate studies could show some differences (between the three methods) that do not currently appear.” Apparently, some of the authors were still convinced that their method was better than the others, although they have just agreed that the scientific evidence shows otherwise [1].

It must be clearly understood that medicine is not only about helping patients but also is a business. RP is an important *market*, and different surgical methods are used as marketing instruments to

attract patients. Advertisement of a particular surgical method as “less invasive” (ie, less harmful) and less costly in terms of blood is directed at patients. Considering the relevant outcomes of cure, continence, and potency, it is hardly relevant whether the patient is discharged on day 2 or day 4 after RP. These issues count in terms of costs (a business outcome) and in terms of advertising advantages.

What differences were found between RRP, LRP, and RALP? The first issue examined was “invasiveness,” an ill-defined parameter. For want of more evidence, three studies remained that looked at acute-response serum parameters. One large, grade 2b study showed no difference between RRP and LRP; a much smaller one did show some differences of unknown clinical significance; and a third, extremely small study (regarding the number of RP patients included, grade 3b) [2] should be discarded for that reason. It is stated that clear advantages for laparoscopy have been shown for cholecystectomy, colectomy, and nephrectomy. At least for cholecystectomy, randomized trials in which patients were blinded for the type of procedure (small-incision open vs laparoscopic) have shown that differences in hospital stay, analgesia requirements, time to recovery, and time to full activity were nonexistent [3,4].

Be that as it may, the issue in this paper is RP, and we disagree that no definite conclusion is possible

with regard to differences in tissue trauma between the three forms of RP. There is no evidence that clinically significant differences do exist. This is also supported by the fact that no meaningful differences were found in the assessment of postoperative pain between the three forms of RP. Clearly, pain, among other factors, is directly related to the extent of surgical trauma and is a clinically meaningful parameter.

Two of the parameters analysed are of very doubtful relevance: length of postoperative stay and length of catheter drainage. Both parameters are subjective and depend on the management strategy of the surgical team, which will differ depending on surgical tradition, hospital strategies, reimbursement policies, and other factors. Length of hospital stay can only be interpreted if the rate of readmission plus that of emergency room consultations within the early discharge period is also examined. Early discharge often goes hand in hand with a higher rate of readmission [5]. Even more so, the catheter drainage time does not depend on objective criteria. Both hospital stay and catheter drainage should not, in our opinion, be used at all for the comparison of different RP techniques because they are largely meaningless.

Complications are a different matter. Comparing reported overall complication rates, however, does not answer many questions unless the complications are specified and graded by severity and unless the same postoperative time periods are assessed (eg, 30 d regardless of hospital stay). Comparing overall complications during in-hospital stay with very different postoperative hospitalisation periods gives a distorted view.

Which differences of importance were found? The laparoscopic techniques are more time consuming to perform but carry an advantage in terms of blood loss and transfusion rates. For postoperative continence rates and potency recovery, no differences could be established. Regarding oncologic outcome, with the surrogate end point of surgical margins, there was no difference.

The authors have done well with a very difficult task, and the limitations are due to the lack of good trials. The literature is full of studies reporting good results with one RP technique and favourably comparing them to older studies done with the competing technique [6]. Such comparisons of historical and current series are fraught with bias. Similarly, the superiority of new techniques or variants thereof is not proved just by comparing them with other studies [7,8].

We are all aware that we will hardly ever see many randomized trials comparing different RP

techniques, although this is not exclusively the patients' fault. Many surgeons strongly believe in *their* technique and think that it is unethical to slot patients into a different technique cohort, denying them the benefits of their surgeon's superior and advanced technique. In contrast to RRP, little Medicare or Surveillance, Epidemiology, and End Results (SEER) data are available yet for LRP. One indication of things to come may be the study of Hu et al, reporting a 3.6-fold increased risk of salvage therapies after minimally invasive RP techniques [9]. In this context, it is of interest that patients after RALP are significantly more likely to regret their treatment choice than patients after RRP [10].

Although the authors are to be highly commended for their good work, there is little discussion of possible bias. Bias is a virus that infects very many clinical studies. When establishing a new technique, surgeons will tend to select *good* patients (eg, with lower perioperative risk factors, fewer local surgical risk factors) for the new technique. This selection process, whether consciously or subconsciously applied, will often persist for some time. For comparisons, RP series must also be stratified by risk factors (eg, median age, body mass index, prostate-specific antigen and Gleason score, number of pT3 cases). If this stratification is omitted, series with very different patient populations will be compared. Patient characteristics may influence perioperative outcome, and tumour characteristics seem to influence post-RP urinary, sexual, and health-related outcomes [11].

Furthermore, some comparative trials can be biased by surgeon selection. A new technique may be done by highly motivated senior experts, whereas the standard technique is performed by less experienced junior surgeons. This makes trials that have explicitly tried to avoid this particular bias more important. Examples are those by Touijer et al [5] (included in the analysis) and by Schmeller et al [12] (not included in the analysis). Both trials, in which all RPs were done by surgeons who were highly experienced in the respective techniques, found a disadvantage for continence recovery for LRP compared with RRP.

Interpretation of data can also be infected by bias. Complications of RLP and RALP are repeatedly discussed as possibly reflecting learning curves. RRP done in large centres will be performed by a variety of surgeons, and there will always be younger surgeons entering the stage of doing RPs; an element of a learning curve with an impact on outcome will also be present in RRP series [13]. Additionally, it has been repeatedly published that the learning curve for RALP is short [14].

What remains from this analysis is that functional outcomes of RRP, LRP, and RALP are the same, that LRP and definitely RALP are more costly, and that estimated blood loss and transfusion rates are lower for laparoscopic techniques. The authors conclude that what matters most is that the surgery is done by an expert in the particular technique [1]. Essentially, this conclusion is not surprising. Nevertheless, it is an extremely important finding, since marketing and the generation of myths surrounding different RP techniques have recently obscured a clear understanding of this fundamental truth.

Conflicts of interest: The authors have nothing to disclose.

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