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Orphaned Side-effects After Robot-assisted Radical Prostatectomy: Is the Retzius-sparing Approach Superior to the Standard Approach or Are the Data Just Not Mature Enough?

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In volume 22 of European Urology Open Science, Kowalczyk et al [1] report interesting new data comparing the novel Retzius-sparing robot-assisted radical prostatectomy (RS-RARP) to the standard RARP (S-RARP) approach. In their retrospectively assessed institutional series of 60 RS-RARP and 57 S-RARP procedures performed by a single surgeon, they observed varying rates of “orphaned” postoperative adverse sequelae of RP, such as inguinal hernias, Peyronie’s disease, and penile shortening.

In general, one possible reason for higher inguinal hernia rates after RP might be impairment of fascial structures of the anterior abdominal wall that occurs during anterior bladder release [2]. Furthermore, higher rates of Peyronie’s disease are possibly derived from microvascular injuries during dissection of the dorsal vascular complex [3]. Lastly, although the cause remains unclear, postoperative penile shortening could also be influenced by a combination of disruption of the dorsal vascular complex and loss of structural support by the endopelvic fascia caused by the anterior bladder drop that is usually performed in a standard approach.

To perform RP of the highest surgical quality, precise knowledge of the important anatomical structures surrounding the prostate is of key importance. In 1982, Walsh and Donker [4] were the first to report on the periprostatic neurovascular structures that are claimed to sustain penile erection. Since then, generations of surgeons have steadily improved their surgical techniques based on anatomical landmarks in order to yield the highest functional outcomes without compromising oncological safety [5]. The latest of these evolutions appears to be RS-RARP, as described by Galfano et al [6] in 2010. This technique avoids dissection of the endopelvic fascia and the dorsal vascular complex and does not require an anterior bladder—in contrast to routine S-RARP—and therefore, on the basis of anatomical assumptions, may be able reduce or even avoid adverse sequelae such as inguinal hernias, Peyronie’s disease, and shortening of penile length [7–9]. However, when comparing functional outcomes between RS-RARP and S-RARP, surgeons seldom go beyond discussing the main determinants, defined as preservation of urinary continence and erectile function. Therefore, the above-mentioned postoperative side effects, which are seldom addressed in postoperative questionnaires and might even occur outside the routine follow-up timeframe, are neglected most of the time in the current literature.

Encouragingly, this gap is now being filled by the study by Kowalczyk et al. The authors conclude that RS-RARP could potentially decrease rates of inguinal hernias, Peyronie’s disease, and penile shortening when compared to S-RARP. However, they report their findings mainly as hypothesis-generating, since the study has several limitations. Besides the retrospective nature of the data and low sample sizes, the major limitation of the study is the discrepant follow-up duration between the two surgical approaches (14 mo for RS-RARP vs 55 mo for S-RARP). These discrepancies preclude the authors from demonstrating definitive superiority of RS-RARP, since it can be assumed that the natural history for the development of one of these postoperative sequelae usually requires a longer time. Therefore, it could be argued that if the authors had stopped counting rates in the S-RARP group after 14 mo (thus aligning it with follow-up for the RS-RARP group) similar results between the two approaches might have been brought forward. However, this hypothesis remains unanswered, since no time-to-event analyses were performed in...
the study. For this reason, although a possible trend favoring RS-RARP in reducing these adverse side-effects can certainly not be denied, comparable long-term follow-up for both approaches and larger sample sizes would be needed to draw further conclusions. Nevertheless, the data presented are thought-provoking and should ideally be followed by prospective randomized trials focusing not only on the main functional outcomes but also on these orphaned—but certainly not negligible—adverse side effects of RP.

Indeed, besides the present study by Kowalczyk et al, an increasing number of studies favor RS-RARP over S-RARP, especially in terms of functional outcomes [10]. However, care has to be taken to avoid prematurely declaring RS-RARP as the winner in this race. Owing to the relative novelty of this technique, the literature lacks long-term data after the initial learning-curve effects that are unmistakably part of this highly demanding surgical technique, especially in complicated cases with large, high-risk prostates or previous pelvic surgery. In any case, to stress the analogy of the questionable superiority of the robot-assisted approach over the open retropubic approach for RP: an allegedly superior surgical technique may not always directly translate into superior results; the expertise and experience of surgeons will always be the main driver in this regard.

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