A comparison of the robotic-assisted versus retropubic radical prostatectomy.

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Abstract

After Walsh's detailed anatomic description of pelvic anatomy in 1979, the retropubic radical prostatectomy (RRP) was the predominant surgical treatment for prostate cancer for more than twenty-five years. Over the past decade, however, the robotic-assisted radical prostatectomy (RARP) has grown increasingly popular and now is the most used surgical modality. Willingness to adopt this approach has been confounded by the novelty of technology and widespread marketing campaigns. In this article, we performed a literature search comparing radical retropubic prostatectomy to robotic-assisted radical prostatectomy with regard to perioperative, oncologic, and quality-of-life outcomes. We performed a PubMed literature search for a review of articles published between 2000 and 2013. Relevant articles were highlighted using the following keywords: robot or robotic prostatectomy, open or retropubic prostatectomy. Perioperative outcomes including decreased blood loss, fewer blood transfusions, and decreased length of hospital stay tend to favor RARP, while perioperative mortality is near negligible in both. Short-term positive surgical margins, prostate-specific antigen recurrence free survival, and need for salvage therapy following RARP are similar to RRP, though data at greater than ten years is limited. Preservation of urinary and sexual function and quality of life favored RARP, though this is dependent on surgeon technique. Finally, cost, though evolving, favors RRP. In our current state, most prostatectomies will continue to be performed robotically. Though there is evidence the robotic-assisted radical prostatectomy offers shorter lengths of stay, decreased intraoperative blood loss, faster return of sexual function and continence, there is a paucity on long-term oncologic outcomes. Rigorous, prospective randomized-controlled trials need to be performed to determine the long-term success of the robotic-assisted radical prostatectomy and whether it is cost-effective when its potential advantages are taken into consideration.

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