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Surgery in Motion

Open Retropubic Nerve-Sparing Radical Prostatectomy

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Article info

Article history:

Accepted October 17, 2005

Published online ahead of
print on November 18, 2005

Keywords:

Prostate cancer
Radical prostatectomy
Nerve-sparing

Abstract

Background: Describe refinements of open retropubic nerve-sparing radical prostatectomy and demonstrate cancer control rates and functional outcome. **Objective:** Surgical steps of division of the dorsal vein complex, sphincter preservation, nerve preservation, and anastomotic technique are described. Continence and potency rates and recurrence-free survival rates are provided. **Design, Setting, and Participants:** From 1992 to 2005 nerve-sparing radical prostatectomy was performed in > 4500 referred patients at the University Hospital Hamburg-Eppendorf.

Surgical Procedure: Refinements of the technique include selective dissection of the dorsal vein complex allowing a precise exclusion of striated sphincter muscle when the vein complex is sutured. Anastomotic sutures are anchored in the sutured vein complex and take only minimal functional muscle tissue. Nerve sparing is started high up at the ventral aspect of the prostate in a tension-free and energy-free technique. At the seminal vesicles Denonvilliers fascia is left in situ to protect the laterally running neurovascular bundles.

Measurements: Biochemical recurrence was defined as a rising prostate-specific antigen level > 0.1 ng/ml. Continence and potency rates were obtained using validated questionnaires.

Results and Limitations: Respective recurrence-free survival rates were 91%, 52%, and 18% for patients with organ-confined disease, capsular penetration, and seminal vesicle involvement. Data are not mature enough to give clinical progression-free rates. Ninety-two percent of patients were completely continent 1 yr postoperatively. Postoperative potency rates enabling intercourse with or without phosphodiesterase 5 inhibitors depended on age, extension of nerve-sparing procedure, and preoperative potency status and ranged from 96.5% for patients aged < 55 yr who underwent bilateral nerve-sparing radical prostatectomy to 18.0% for men aged > 65 yr After a unilateral procedure.

Conclusions: Open retropubic radical prostatectomy offers excellent cancer control rates in patients with localized prostate cancer. Functional outcome is superior and reproducible when a tension-free and energy-free technique is applied.

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