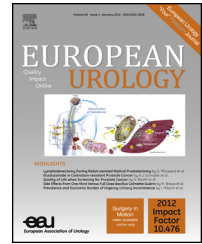




European Association of Urology



Platinum Priority – Prostate Cancer

Editorial by Alexander Bachmann and Malte Rieken on pp. 644–645 of this issue

Indication for and Extension of Pelvic Lymph Node Dissection During Robot-assisted Radical Prostatectomy: An Analysis of Five European Institutions

Nazareno Suardi^{a,*}, Alessandro Larcher^a, Alexander Haese^b, Vincenzo Ficarra^c,
Alexander Govorov^d, Nicolò M. Buffi^a, Jochen Walz^e, Bernardo Rocco^f,
Marco Borghesi^g, Thomas Steuber^b, Giovannalberto Pini^h, Alberto Briganti^a,
Alexander M. Mottrie^g, Giorgio Guazzoni^a, Francesco Montorsi^a, Dmitry Pushkar^d,
Henk Van Der Poelⁱ,

for the EAU Young Academic Urologists–Robotic Section

^a Department of Urology, Urological Research Institute, University Vita-Salute San Raffaele, Milan, Italy; ^b Department of Urology, University of Hamburg Eppendorf, Hamburg, Germany; ^c Department of Urology, University of Udine, Udine, Italy; ^d Department of Urology, Moscow State University of Medicine and Dentistry, Moscow, Russia; ^e Department of Urology, Institut Paoli-Calmettes, Marseille, France; ^f Fondazione Ospedale Maggiore Policlinico, Department of Urology, University of Milan, Milan, Italy; ^g Department of Urology, O.L.V. Clinic, Aalst, Belgium; ^h Department of Urology and Kidney Transplantation Center, Martin-Luther-University, Halle Saale, Germany; ⁱ Department of Urology, University of Amsterdam, Amsterdam, The Netherlands

Article info

Article history:

Accepted December 24, 2013
Published online ahead of
print on January 4, 2014

Keywords:

Prostate cancer
Radical prostatectomy
Robotics
Lymph nodes
Lymphadenectomy

Abstract

Background: Several reports have shown that patients who undergo minimally invasive radical prostatectomy have a lower chance of undergoing pelvic lymph node dissection (PLND), irrespective of the disease characteristics.

Objective: We evaluated the rate and extension of PLND in patients who underwent robot-assisted radical prostatectomy (RARP). We tested the adherence of the indication for PLND to the European Association of Urology (EAU) guidelines.

Design, setting, and participants: Our study was a multi-institutional retrospective analysis of prospectively collected data on 2985 consecutive patients who underwent RARP at five high-volume European institutions. Patients were stratified according to preoperative cancer risk group.

Intervention: RARP.

Outcome measurements and statistical analysis: The rate and extent of PLND across different institutions were analyzed. Univariable and multivariable logistic regression models evaluated the association between preoperative variables and the probability of receiving PLND, as well as the presence of lymph node invasion (LNI). Finally, the probability of LNI was calculated for each patient, and the indication for PLND was compared with the EAU guidelines' indications.

Results and limitations: A lymph node dissection was performed in 1777 patients (59.7%; 34.5% of low-risk patients, 64.9% of intermediate-risk patients, and 91.2% of high-risk patients). These rates were different across institutions: 5.0–41.4% in low-risk patients ($p < 0.001$), 31.3–81.4% in intermediate-risk patients ($p < 0.001$), and 84.6–96.4% in high-risk patients ($p = 0.06$). The mean and median number of nodes removed was 10.8, and 122 patients (4.1%) had nodal metastases. At multivariable analysis, the institution

* Corresponding author. Department of Urology, University Vita-Salute San Raffaele, Via Olgettina 60, 20132 Milan, Italy. Tel. +39 02 26437286; Fax: +39 02 2643 7298. E-mail address: suardi.nazareno@hsr.it (N. Suardi).

represented an independent predictor of PLND ($p < 0.001$). Of patients with current indication for PLND (EAU guidelines), 77.8% actually received the procedure. Limitations were the retrospective study design with different pathologic assessment and lack of follow-up data.

Conclusions: PLND is performed in a high proportion of patients undergoing RARP in high-volume centers in Europe for whom the procedure is indicated by the EAU guidelines, but significant differences exist among institutions. An effort toward a more rigorous standardization of PLND is advocated.

Patient summary: In this paper, we investigated the indication for and extension of pelvic lymph node dissection (PLND) in different institutions in Europe. Despite PLND being widely performed, significant variations with regard to PLND do exist among different institutions. Therefore, a thrust toward more rigorous attention to PLND is advocated.

© 2013 European Association of Urology. Published by Elsevier B.V. All rights reserved.

1. Introduction

Pelvic lymph node dissection (PLND) represents the most accurate staging procedure for patients diagnosed with organ-confined prostate cancer (PCa) who undergo radical prostatectomy (RP) [1]. Several predicting tools are available to quantify the risk of lymph node invasion (LNI) [2–4]. The European Association of Urology (EAU) guidelines on PCa recommend omitting PLND when the risk of LNI is $\leq 5\%$, while they do recommend performing PLND for all other patients [1]. To date, there are few real-world data about the current management of PCa patients who underwent RP with regard to the indication for and the extension of PLND in both open and robotic approaches. It has been demonstrated that patients who undergo minimally invasive RP have a lower chance of receiving PLND as compared with their counterparts who undergo open RP, bringing into question the oncologic role of minimally invasive RP [5,6]. Finally, several studies of patients who underwent robot-assisted RP (RARP) and PLND have shown that the number of nodes routinely removed is very low [7,8]. However, to date, RARP has been used increasingly in the setting of organ-confined PCa [9]. Proper planning and execution of PLND are crucial in patients treated with RARP and are even more important because it has been suggested that RARP may also represent an effective treatment for high-risk patients [10]. It is therefore of utmost importance to establish whether an appropriate PLND is actually routinely performed during RARP, since several studies showed that an extended PLND is feasible during RARP [11–15], but no population-based European study is available to demonstrate this issue.

The objective of the study was to examine the rate and the extension of lymph node dissection (LND) according to preoperative risk groups in a large population of patients who underwent RARP in five high-volume European institutions and to test whether the indication for PLND actually adheres to the EAU guidelines.

2. Materials and methods

2.1. Patient population

For the purpose of the study, we merged the databases, including prospectively collected data on 3058 consecutive patients not previously treated with androgen deprivation

therapy and/or radiation therapy who underwent RARP at five high-volume European institutions between 2005 and 2012. Patients with missing clinical and/or pathologic data were excluded ($n = 73$; 2.3%), resulting in 2985 patients with complete preoperative information (age, prostate-specific antigen [PSA], clinical stage, biopsy Gleason score, and percentage of positive biopsy cores) and complete pathologic information regarding the occurrence of LNI, the number of lymph nodes removed, and the number of positive lymph nodes. All surgeries were performed with the da Vinci system.

2.2. Statistical analyses

For the purpose of the analyses, patients were stratified according to preoperative risk groups as follows: low risk (PSA < 10 ng/ml, clinical stage T1c, and Gleason score ≤ 6), high risk (PSA > 20 ng/ml, clinical stage T3, or Gleason score 8–10), or intermediate risk (all remaining patients).

First, descriptive statistics were used to analyze the rate of LND in the overall population and in each risk group category by χ^2 analyses. Second, the student t test and analysis of variance were used to measure and compare the number of nodes removed during LND in each risk group category. Third, univariable analysis (UVA) and multivariable analysis (MVA) logistic regression models predicting the probability of receiving an LND were fitted. Covariates consisted of preoperative PSA, clinical stage (categorized as cT1c, cT2, and cT3), biopsy Gleason score, percentage of positive biopsy cores (defined as the number of positive cores over the number of total cores taken), and institution (coded as a nonordinal categorical variable). Fourth, UVA and MVA logistic regression analyses were used to predict the presence of LNI. Covariates consisted of preoperative PSA, clinical stage, biopsy Gleason score, percentage of positive biopsy cores, and number of nodes removed (coded as continuous variable). The same analysis was conducted after stratifying the population according to risk categories. Finally, the LNI probability according to the nomogram of Briganti et al. [16] was calculated for each patient. The EAU guidelines cut-off for the indication for PLND was tested in the overall population as well as according to each institution.

All statistical analyses were performed using SPSS v.18.0 (IBM Corp., Armonk NY, USA). All tests were two-sided, with a significance level set at 0.05.

Download English Version:

<https://daneshyari.com/en/article/6178002>

Download Persian Version:

<https://daneshyari.com/article/6178002>

[Daneshyari.com](https://daneshyari.com)