



# Robotic Salvage Lymph Node Dissection After Radical Prostatectomy

Fabio C. M. Torricelli <sup>1,2,3</sup>, Arnaldo Cividanes <sup>1,2,3</sup>, Giuliano B. Guglielmetti <sup>1,2,3</sup>, Rafael F. Coelho <sup>1,2,3</sup>

<sup>1</sup> Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, SP, Brasil; <sup>2</sup> Hospital 9 de Julho, SP, Brasil; <sup>3</sup> Instituto do Câncer do Estado de São Paulo (ICESP), SP, Brasil

## ABSTRACT

*Introduction and objective:* Radical prostatectomy is a first-line treatment for localized prostate cancer. However, in some cases, biochemical recurrence associated with imaging-detected nodal metastases may happen. Herein, we aim to present the surgical technique for salvage lymph node dissection after radical prostatectomy.

*Materials and Methods:* A 70 year-old asymptomatic man presented with a prostate-specific antigen (PSA) of 7.45ng/mL. Digital rectal examination was normal and trans-rectal prostate biopsy revealed a prostate adenocarcinoma Gleason 7 (3+4). Pre-operative computed tomography scan and bone scintigraphy showed no metastatic disease. In other service, the patient underwent a robotic-assisted radical prostatectomy plus obturator lymphadenectomy. Pathologic examination showed a pT3aN0 tumor. After 6 months of follow-up, serum PSA was 1.45ng/mL. Further investigation with 11C-Choline PET/CT revealed only a 2-cm lymph node close to the left internal iliac artery. The patient was counseled for salvage lymph node dissection.

*Results:* Salvage lymph node dissection was uneventfully performed. Operative time was 1.5 hour, blood loss was minimal, and there were no intra- or postoperative complications. The patient was discharged from hospital in the 1st postoperative day. After 12 months of follow-up, his PSA was undetectable with no other adjuvant therapy.

*Conclusion:* Robotic salvage pelvic lymph node dissection is an effective option for treatment of patients with biochemical recurrence after radical prostatectomy and only pelvic lymph node metastasis detected by C11-Choline PET/CT.

## ARTICLE INFO

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**Correspondence address:**  
Fábio César Miranda Torricelli, MD  
Av. Vereador José Diniz, 3300 / 208  
São Paulo, SP, 04604-006, Brazil  
Telephone: +55 11 5533-4900  
E-mail: fabio\_torri@yahoo.com.br

## EDITORIAL COMMENT

To date, an implementation of novel imaging techniques, such as PSMA or 11C-choline PET fused with CT or MRI, and diffusion-weighted MRI imaging (DWI), seem to significantly improve restaging of lymph node (LN) status after radical prostatectomy. From physician and patient prospects, it is outmost of importance to accurately detect the solitary LNs considering them as a final local resort of residual cancer disease. From this point, the precise preoperative mapping of potential targets can be a prerequisite for successful salvage robotic-assisted radical prostatectomy (sRARP). The recent data suggested that sLND can delay clinical progression and postpone hormonal therapy in almost one-third of the patients, although the majority of them will have biochemical failure (1).

The presented videocase demonstrated that 11C-choline PET/CT scan may be useful as a reliable and promising tool for restaging of LN status in patients with biochemical recurrence of disease after RARP. However, more evidence-based data are needed to prove further validation of accuracy of this scan especially with low PSA threshold (less than 0.5-1.0ng/mL). Furthermore, the contemporary literature data and our initial clinical experience show a value of other radiopharmaceutical agent such as PSMA PET/CT scan as even more precise diagnostic modality.

Otherwise, new data with DW-MRI use also seem to have favorable performance characteristics as well. For instance, Elbert et al. (3) examined the results on 29 patients with DW-MRI using quantitative parameter such as ADC (apparent diffusion coefficient) cut-off of  $1.30 \times 10^{-3}$  reporting a sensitivity, specificity and discrimination accuracy of this threshold to detect LN involvement as of 86%, 85% and 86%, respectively.

Finally, image-guided sLND can be considered as a feasible and useful treatment option in patients with clinical LN failure after primary definitive treatment such RARP.

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*Vipul Patel, MD and Vladimir Mouraviev, MD*  
 Director of Urologic Oncology  
 Florida Hospital Cancer Institute, FL, USA  
 E-mail: vipul.patel.md@flhosp.org