

Pelvic lymph node dissection during robotic prostatectomy in the MUSIC collaborative

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INTRODUCTION AND OBJECTIVES: Several guidelines recommend pelvic lymph node dissection (PLND) at robotic prostatectomy (RP) when the anticipated risk of lymph node involvement (LN+) is >2%. In practice, individual surgeon use of PLND is variable and the results of PLND across populations of surgeons are not well-known. Herein, we examine the determinants of PLND performance and of detection of LN+ disease across the MUSIC collaborative.

METHODS: We identified all men in the MUSIC registry who underwent RP with or without PLND from March 2012 through September 2018. We analyzed age, PSA, clinical T (cT) stage, biopsy grade group (bGG), number of positive cores (#pos cores), maximum % of involvement with cancer (max%), and imaging performance and results, as predictors of PLND and of LN+ disease in this cohort. Examined surgeon characteristics included annualized RP volume and proportion of RP with PLND.

RESULTS: Among 9751 men undergoing RP, 79.8% had PLND performed (n=7781), of which 5.2% were LN+ (n=404). On multivariable analysis, predictors of PLND included PSA, cT stage, bGG, #pos cores, and max% (p<0.05 for each). These same factors also predicted LN+ when PLND was performed (p<0.05 for each). More specifically, bGG was a strong predictor of both PLND (60.0%, 77.6%, 91.0%, 97.3%, and 98.5%; p<0.001) and LN+ (0.7%, 2.5%, 5.8%, 8.6%, 19.9%; p<0.001) for bGG 1,2,3,4,5, respectively. Number of cores involved by cancer was also a strong predictor of LN+ with rates of 2.0%, 2.8%, and 9.2% for 1-2, 3-5, and >=6 positive cores (p<0.001). Although significant variation in the proportion of RP performed with PLND was observed (Figure), neither surgeon annualized RP volume or % of PLND performed was associated with LN+ disease (p>0.05).

CONCLUSIONS: Nearly 80% of RP in the MUSIC collaborative are performed with PLND, including 60% of bGG1 patients. Our data indicate limited benefit of PLND for favorable-risk PCa patients (0.7% LN+ for bGG1 patients), which is below the recommended >2% cut-off of the NCCN guidelines. We intend to address the variation in PLND use across the state with development of MUSIC appropriateness criteria for PLND at RP.

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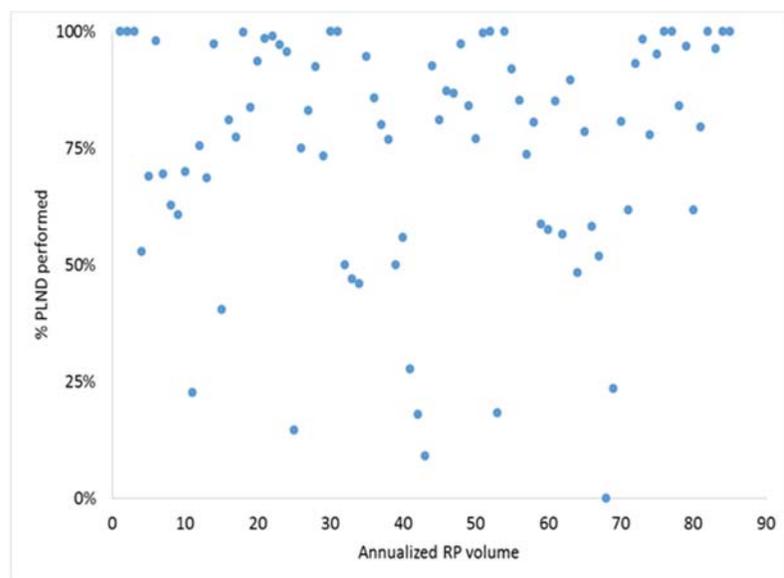


Figure 1: Proportion of patients undergoing PLND by individual MUSIC surgeons according to annualized prostatectomy volume.