Pelvic lymph node dissection in prostate cancer: indications, extent and tailored approaches.

Bianchi L,1,2 Gandaglia G1, Fossati N1, Suardi N1, Moschini M1, Cucchiara V1, Bianchi M1, Damiano R3, Schiavina R2, Shariat SF4, Montorsi F1, Briganti A1.

Abstract

PURPOSE: The purpose of this study is to review the current literature concerning the indication of pelvic lymph node dissection (PLND), its extent and complications in prostate cancer (PCa) staging, the available tools, and the future perspectives to assess the risk of lymph node invasion (LNI).

METHODS: A literature review was performed using the Medline, Embase, and Web of Science databases. The search strategy included the terms pelvic lymph nodes, PLND, radical prostatectomy, prostate cancer, lymph node invasion, biochemical recurrence, staging, sentinel lymph node dissection, imaging, and molecular markers.

RESULTS: PLND currently represents the gold standard for nodal staging in PCa patients. Available imaging techniques are characterized by poor accuracy in the prediction of LNI before surgery. On the contrary, an extended PLND (ePLND) would result into proper staging in the majority of the cases. Several models based on preoperative disease characteristics are available to assess the risk of LNI. Although ePLND is not associated with a substantial risk of severe complications, up to 10% of the men undergoing this procedure experience lymphoceles. Concerns over potential morbidity of ePLND led many authors to investigate the role of sentinel lymph node dissection in order to prevent unnecessary ePLND. Finally, the incorporation of novel biomarkers in currently available tools would improve our ability to identify men who should receive an ePLND.

CONCLUSIONS: Nowadays, the most informative tools predicting LNI in PCa patients consist in preoperative clinical nomograms. Sentinel lymph node dissection still remains experimental and novel biomarkers are needed to identify patients at a higher risk of LNI.

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