UP55

Intraoperative laparoscopic ICG-guidance extended pelvic lymph node dissection in patients with intermediate and high-risk prostate cancer who underwent radical prostatectomy: A matched case-control study

Eur Urol Open Sci 2020;19(Suppl 1):e60

Claps F.[1], Ramirez Backhaus M.[2], Gómez Ferrer A.[2], Mir Maresma M.C.[2], Dominguez Escrig J.L.[2], Collado Serra A.[2], Calatrava Fons A.[3], Rubio Briones J.[2]

[1]University of Trieste, Dept. of Urology, Trieste, Italy, [2]Valencian Oncology Institute, FIVO, Dept. of Urology, Valencia, Spain, [3]Valencian Oncology Institute, FIVO, Dept. of Pathology, Valencia, Spain

Introduction & Objectives: To date there is still insufficient quality evidence supporting oncological effectiveness of sentinel node (SN) biopsy in prostate cancer (PCa). In the last decade, the potential to identify nodes visually has stimulated a movement towards the use of near-infrared (NIR) fluorescent dye ICG: this may be useful during prostatectomy based on its ability to act as a lymphangiography agent to visualize sentinel prostatic drainage. However this techinque still cannot replace ePLND, it could improves outcomes from ePLND. The current study aim to compare the pathological and clinical outcomes between standard ePLND with the ICG-guided ePLND with additional dissection of fluorescent nodes in the setting of a matched case-control study.

Materials & Methods: 214 patients underwent 3D laparoscopic radical prostatectomy with ICG-guided ePLND. These patients constituted the case group and were matched 1:1 for clinical risk groups according to the NCCN classification with patients underwent the same procedure at our Insitute without fluorescence guidance (control group). Data about the ICG-guided ePLND group were collected prospectively while for the control group were retrieved using our prospectively collected electronic PCa database.

Results: Both group were omogeneous for preoperative data (age, initial PSA, percentage of positive core). Median operative time, median number of lymph nodes retrieved and median number of positive lymph nodes was significanlty higher in the ICG-guided ePLND ($p<0.001$). Overall, 7978 lymph nodes were removed with a median of 17.5 dissected nodes: in particular 3314(41.5%) using regular ePLND template and 4664(58.5%) with fluorescence guidance (median values 14 vs 22, $p<0.001$). Node-positive disease was found in 92(21.5%) patients and and most of them had a single metastasis (53.6%). A total of 208(2.6%) metastatic lymph nodes were found: 71(34.1%) coming from regular ePLND and 137(65.9%) from the ICG-guided group, respectively. Out of the 4664 lymph nodes coming from the intervention group there were 4170(89.4%) negative and 46(0.99%) positive nonstained nodes, 403(8.6%) free of disease and 91(1.9%) metastatic ICG stained nodes at final pathological report. After a median follow-up of 36 months, 104 patients experienced a BCR: 38(17.76%) in the ICG group vs 66 (30.84%) in the control one ($p=0.002$). Finally, considering the subset of pN positive disease, the Kaplan-Meier curve shown a significant difference in the trend of BCR in favour of the intervention group ($p=0.04$).

Conclusions: However fluorescence-guidance ePNLD can't replace the standard of care, can be a useful tool to integrate the extended template of pelvic lymph node dissection during radical prostatectomy.