

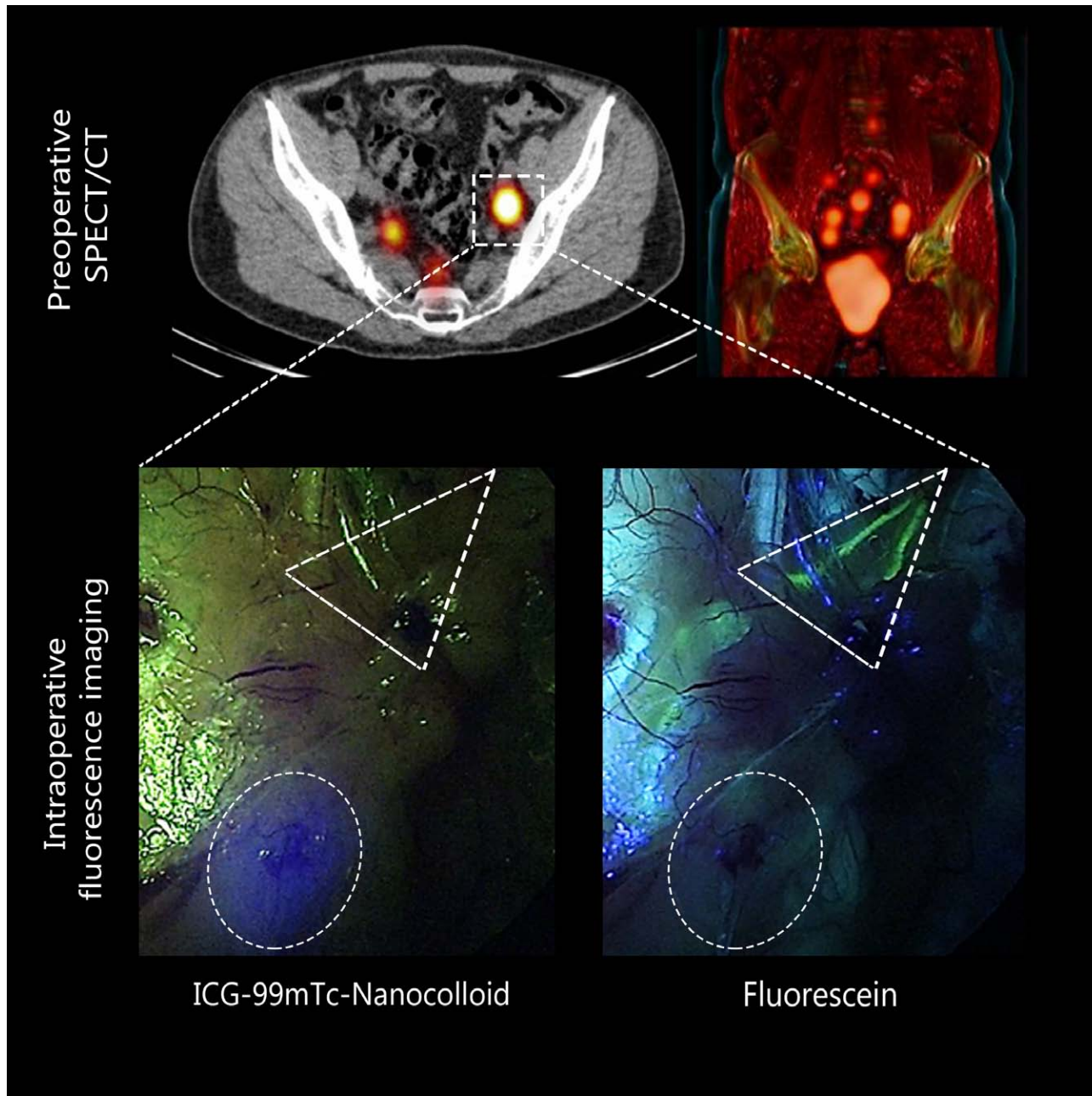
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**Introduction & Objectives:** Removal of pelvic lymph nodes (LN) during robot-assisted radical prostatectomy (RARP) affects lymphatic pathways, resulting in lymph edematous complications. Given only 10% of removed LNs contain prostate cancer metastases, further differentiation of LNs is desirable. This study aimed to categorize LNs within the extended pelvic LN dissection (ePLND) template by employing multi-color fluorescence imaging to intraoperatively differentiate the lymphatic drainage pathway from the prostate (and tumor) and non-disease related structures such as the leg.

**Materials & Methods:** Patients with elevated risk of LN involvement were prospectively included and underwent RARP + ePLND. All men underwent a sentinel node (SN) procedure by intraprostatic administration of indocyanine green (ICG)-<sup>99m</sup>Tc-nanocolloid and preoperative SPECT/CT imaging. Prior to RARP, Fluorescein was injected intradermally with two deposits into the upper leg. In and ex vivo fluorescence imaging was performed using a Firefly (da Vinci Xi®) camera and Image 1 HUB HD + D-light P (Karl Storz) fluorescence laparoscope. Fluorescence data was correlated to histopathological findings.

**Results:** We report data on our first 5 patients. A median of 4 SNs (interquartile range [IQR] 2.5-7) were identified per patient on both SPECT/CT (Fig. 1, top image) and intraoperative ICG imaging (Fig. 1, in blue). In 3/5 patients, fluorescein injected into the leg was clearly visible within the ePLND template (Fig. 1, in green). Fluorescein and ICG co-accumulated in a tumor bearing lymph node in 1 patient, suggesting overlapping drainage pathways of prostate and leg. The additional fluorescein did not result in discomfort at the site of injection or abnormal postoperative recovery.



**Conclusions:** For the first time, co-localization of lymph drainage patterns of the leg and prostate were imaged intraoperatively. While further results of this ongoing study are required to corroborate the implications on nodal dissection and complication rates, this approach has the potential to provide a handle to discriminate between tissue that needs to be spared or resected.