

## Lymphatic drainage of the prostate: an anatomical insight to solve a clinical dilemma

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The evidence of pelvic lymph node metastases after radical prostatectomy (RP) with pelvic lymph node dissection (PLND) is one of the strongest prognostic factors for poor oncologic outcome [1]. In this clinical scenario, the extent of PLND, although representing a crucial step in RP, is still controversial [2]. Currently, there is a critical drawback in clinical practice due to the lack of congruence between the known lymphatic drainage and cancer dissemination despite its management by a surgical approach [3].

We hypothesized that some landmarks of the lymphatic drainage of the prostate were not actually considered in clinical daily practice. We carried out a systematic review of the anatomic description of nodal drainage of prostate reported by the original texts since the 18th century. Moreover, we performed an anatomical dissection of a human body made available by the Body Donation Program at the University of Padova.

The cadaver was prepared by a novel anatomical dissection technique developed to solve this particular anatomical-clinical question, by highlighting the efferent lymphatic pathways of the prostate with special reference to the posterior one drainage, in order to verify what is reported in the historical literature. The overall evidence resulting from the historical anatomical treatises and cadaver dissection confirmed that three groups of lymphatics carry out prostatic nodal drainage, as follows. A) ascending ducts from the cranial gland leading to the external iliac nodes; B) lateral ducts leading to the hypogastric nodes; C) posterior ducts from the caudal prostate leading to the lateral and promontory sacral nodes.

The overall evidence resulting from the historical anatomical treatises and cadaver dissection confirmed that posterior ducts from the caudal prostate leading to the lateral and promontory sacral nodes.

These anatomical evidences demonstrate that lymphatic drainage of the prostate extends beyond standard nodal templates actually considered in clinical daily practice. Based on our observations, clinicians have to implement a critical revision of their conception of the prostatic drainage.

### References

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### Key words

Prostate, lymphatic drainage, radical prostatectomy, cancer.