

RETEROPERITONEAL LYMPHADENECTOMY IN UROLOGY

ESSAY

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M.Sc. Degree*

In
Urology

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By

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UNDER SUPERVISION
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***To my parents,
wife & son***



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I N T R O D U C T I O N

Para-aortic lymphadenectomy involves removal of pelvic and para-aortic lymphnodes.

In spite of the recent advances in staging procedures (Lymphangiography Ct. scanning, sonography, and MRI).

Still staging lymphadenectomy is the most reliable and definite method for lymphnode assessment.

Lymphadenectomy either pelvic or para-aortic have their therapeutic role in many cancers.

Indications (As staging procedure or Therapeutic effect), operative techniques and complications of pelvic and para-aortic Lymphadenectomy will be discussed in the following chapters.

LYMPHATIC DRAINAGE OF PELVIS

important as an early metastatic site for pelvic malignancies is the node most urologic surgeons are likely to identify as obturator node in the course of pelvic lymphadenectomy.

- External iliac lymph nodes drain from inguinal lymphnodes, from the deeper layers of the infra-umbilical part of the abdomen, from the adductor region of the thigh from glans penis or clitoris, the membranous urethra, prostate, fundus of urinary bladder, cervix uteri and vagina.

- Inferior epigastric and circumflex, iliac nodes, associated with these vessels and draining corresponding areas are outlying members of the external iliac group.

The internal iliac Lymph nodes

The internal iliac or hypogastric group of node, usually four to eight in number is located along internal iliac artery and its branches.

The sacral lymph nodes along the median and lateral sacral vessels and the obturator lymph node sometimes present in the obturator canal, are outlying members of the internal iliac group.

- * The internal iliac lymph nodes receive part from all the pelvic viscera, from the deeper parts of the

nodes of the sacral promontary part of the medial common iliac chain.

They receive afferents from the external and internal iliac nodes and sends their efferents to the lateral aortic group.

Urologic organs draining into retroperitoneal pelvic lymph nodes.

The bladder

The vesical lymph vessels take origin in three plexuses, mucous, intramuscular and extra muscular. All of which end in external iliac lymph nodes and are arranged in three sets.

The vessels from the region of the trigone - emerge on the base of the bladder and run upwards and laterally . Those from the superior surface converge on posterolateral angle and then pass upwards and laterally across the lateral umbilical ligament to reach external iliac lymph nodes (One of these may go to the internal or common iliac group).

Those from inferolateral surface pass upwards to run with those from superior surface.

The Urethra

The vessels from the prostatic and membranous parts in the male and from the whole urethra in the

female pass mainly to the internal iliac nodes.

A few may end in the external iliac lymph nodes.

*Vessels from membranous part accompany internal pudendal artery.

The Prostate :

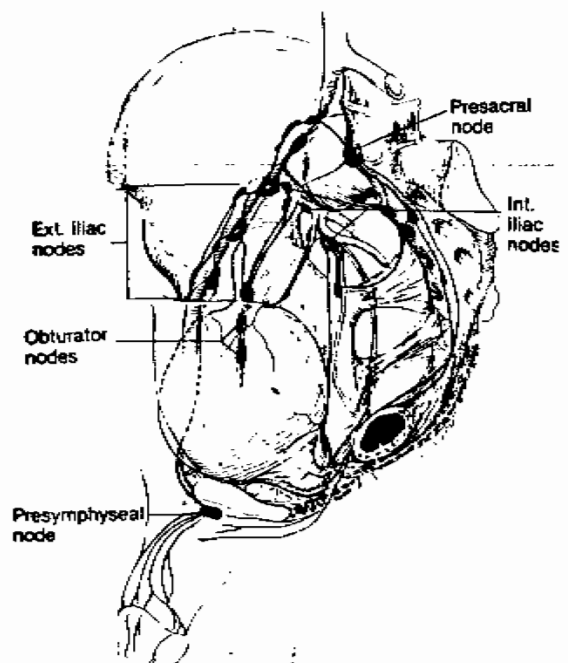
prostatic vessels terminates chiefly in the internal iliac and sacral nodes.

A trunk from posterior surface passes with the lymph vessels of the bladder to the external iliac node. and another from the anterior surface gains access to the internal iliac group by joining the vessels of the membranous Urethra.

The ductus deferens, seminal vesicles:

Collecting vessels from the ductus end in external iliac nodes

Those from the seminal vesicle go to both the internal and external iliac groups.



Lymphatic drainage
of pelvis.

TANAGHO E.A. 1986

INDICATIONS OF PELVIC LYMPHADENECTOMY

Indications of Pelvic lymphadenectomy

In cancer prostate :

A. In staging of pelvic lymph node

Incidences of pelvic lymph node metastases

From prostatic cancer. (Lieskousky.G 1989)22% for patients with clinical stage A2 16% for patients with clinical stage B1 disease.

35% with clinical stage B2 disease and

50% for patients with clinical stage C disease

82% of all patients with lymph node metastases had disease in obturator - hypogastric nodes.

Whereas involvement only of the external iliac or common iliac lymph nodes occurred in 9% and 4% respectively.

Accuracy of pelvic lymphadenectomy in Lymphnode staging

-pelvic lymphadenectomy is the most accurate means of staging pelvic lymph nodes .

-False results in lymphangiographys occur in 5 to 10 percent of patients(Efrendis 1979: Corred et al 1981 : Don et al 1982 :Wajsman et al 1982: Von Eschenboch and Zoronzio).

-Ct. scanning is unable to detect microscopic metastases and may produce false results owing to enlarged benign nodes(Redman, 1977, levih et al 1978).

Selection of candidates for pelvic Lymphadenectomy

* According to stage

* Staging procedures should be performed only on patients in whom treatment decisions will be influenced by results of staging.

-Or to establish a baseline for future followup.

* All prostatic Cancer in whom no immediate treatment is planned do not require further staging unless a base line is desired.

* Patients having clinical stage A2 or B prostate Cancer require further, clinical evaluation to determine their candidacy for radical prostatectomy.

N.B: In patients having stage D2 prostate Cancer. Lymph node evaluation is unnecessary because the results do not influence therapy.

* According to Grade

- Pelvic Lymphadenectomy should be performed in selected patients. Especially those with a gleason histopathologic grading score of 6, 7, or 8.

Prognostic Significance of Positive Nodes

*Fisher and associates (1983) reported that stratification of patients according to the extent of nodal involvement yielded a correlation with Tumor Free and Overall Survival

-Only about one half of patient who had a single Lymph node metastasis develop distant metastases within 5 years,

whereas 93 percent who had Juxtaregional Lymphnode metastases develop distant metastases during the same interval.

*Middleton and Smith (1982) reported that pelvic Lymph node status is an accurate predictor of local tumor extension in patients with clinical B2 tumors. They found that primary tumor was confined within the prostatic capsule in 86 percent in patient not having pelvic lymph node metastases.

Zincke and associates (1981, 1982)- reported that 5 years Survival rate was 95 percent, whereas patients having multiple positive nodes has a 70 percent 5 years survival rate, however most of these patient also received adjuvant endocrine therapy.

* Presences of Lymphnode metastases will affect combined interstitial ^{198}Au and external - beam radiation therapy.

-So in absence of pelvic lymph node metastases supplemental External - beam radiation therapy is given.

-While patient having node metastases are treated with adjunctive chemotherapy.

* Limited lymph node dissection may be used as a mean of identifying patient not having lymphnode metastases who are more likely to be cured with radiation therapy.

Krames. S.A and Associates (1981) showed that Gleason Score Assigned to the corresponding

B: Role of pelvic Lymphadenectomy therapeutically in cancer prostate

* patients with stage D1 prostate Cancer treated with radical prostatectomy and pelvic Lymphadenectomy may have a lower incidence of subsequent distant metastases than patients managed by treatments in which prostate is left in situ.

* The Operation for 125I implantation involves. An extraperitoneal pelvic Lymphadenectomy.

* Pelvic Lymphadenectomy is routinely performed before 198 Au implantation.

* Also pelvic Lymphadenectomy is associated with Interstitial 198 implantation therapy.

II. Indication of Pelvic Lymphadenectomy in Cancer bladder

* The current study of patients with bladder Cancer metastatic to regional Lymph node at the time of cystectomy was undertaken in an attempt to define the reasons for treatment failures and the prognosis in various subgroups of patients with nodal involvement.

*Table 2.3 shows the distribution of involved Lymph nodes, The frequency of involvement of each nodal group obviously is influenced by specimen.

Labelling, which often did not include separate identification of hypogastric or perivesical Lymph nodes.

Table 2.3

Lymph node groups involved

	No. (%)
Obturator	99(74)
External iliac	87(65)
Hypogastric	23(17)
Perivesical	21(16)
Common iliac	25(19)
Total	255

* most patients had > 1 group involved

Regional lymph node metastasis from bladder cancer .

Smith J.A and Associates
1981