

UROLOGICAL ONCOLOGY

Dihydrotestosterone levels and survival in screening-detected prostate cancer: a 15-yr follow-up study

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Objectives: It has been hypothesized that dihydrotestosterone (DHT), the main intracellular androgen in the prostate, affects prostatic tumour progression. In this study, we evaluated serum DHT levels at the time of prostate-cancer diagnosis in relation to survival.

Methods: Sixty-five screening-detected patients diagnosed in 1988-1989 were followed for 15 yr. DHT levels at the time of diagnosis were determined through radio-immuno assay. Subjects were followed up through the nationwide tax register. Medical records of all dead subjects were reviewed, and cause of death was established by an endpoint committee. Data were analyzed through Kaplan-Meier estimation and Cox proportional-hazards regression.

Results: Seventeen of 41 deaths in the cohort during follow-up were attributed to prostate cancer. Patients with DHT above the median had a significant better prostate-cancer-specific survival than those with DHT below the median (log rank $p = 0.0075$). In the univariate analyses, one unit increase in DHT was associated with a hazard ratio (HR) of 0.14 (95% CI=0.02-0.93). In the multivariate model, including prostate-specific antigen level, the association between DHT and prostate-cancer-specific survival was not significant (HR=0.18; 95% CI=0.02-1.6). DHT level below the median remained significantly associated with decreased survival in the multivariate model (HR=0.23; 95% CI=0.06-0.90). No association was found between DHT level and hazard of dying from causes other than prostate cancer.

Conclusions: Although the prognostic value of DHT levels at diagnosis remains unclear, these results provides evidence of an association between low DHT and decreased survival in prostate cancer patients.

Editorial Comment

The association of androgens and prostate cancer is still debated. This trial analyzes the relation of dihydrotestosterone (DHT) levels and survival in prostate cancer patients. Testosterone is the principal androgen and the main intracellular androgen in the prostate is DHT. DHT arises from intracellular conversion of testosterone and binds to the intracellular androgen receptor with an affinity seven-fold higher than testosterone.

The authors found a correlation of decreased survival and low DHT serum levels in their cohort of 65 patients. Although this study is hampered by several flaws such as small patient numbers, this is still a very

interesting manuscript, and to my knowledge, the first to look into DHT serum levels and prostate cancer survival. Further studies should focus into this topic.

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The template of the primary lymphatic landing sites of the prostate should be revisited: results of a multimodality mapping study

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Objectives: To map the primary prostatic lymphatic landing sites using a multimodality technique.

Methods: Thirty-four patients with organ-confined prostate cancer (cT1-cT2; cN0) underwent single-photon emission computed tomography fused with data from computed tomography (SPECT/CT) (n = 33) or magnetic resonance imaging (SPECT/MRI) (n = 1) 1h after ultrasound-guided intraprostatic injection of technecium (Tc-99m) nanocolloid. The presence of lymph nodes (LNs) containing Tc-99m was confirmed intraoperatively with a gamma probe. A backup extended pelvic lymphadenectomy (PLND) was performed to preclude missed primary lymphatic landing sites. The SPECT/CT/MRI data sets were used to generate a three-dimensional projection of each LN site.

Results: A total of 317 LNs (median, 10 per patient; range, 3-19) were detected by SPECT/CT/MRI, 314 of which were confirmed by gamma probe. With an "extended" PLND, two thirds of all primary prostatic lymphatic landing sites are resected compared with only one third with a "limited" PLND.

Conclusions: The multimodality technique presented here enables precise mapping of the primary prostatic lymphatic landing sites. PLND for prostate cancer should include not only the external and obturator regions as well as the portions medial and lateral to the internal iliac vessels, but also the common iliac LNs at least up to the ureteric crossing, thus removing approximately 75% of all nodes potentially harbouring metastasis.

Editorial Comment

This report from Berne, Switzerland focuses on the extend of retroperitoneal lymph node dissection in prostate cancer. The authors used Spect/CT and MRI data to localize the lymph nodes in prostate cancer and tried to remove these during radical prostatectomy. They found primary landing site lymph nodes up to the mesenteric vein and para-aorta. The authors conclude that upon classical lymph-node dissection (LND) only 38% of the relevant lymph nodes are removed. On the other hand, pararectal, pre-sacral and para-aortal LND would add to morbidity and would compromise the results of nerve-sparing RPE. Therefore, an extended LND is seen as a compromise in patients with risk of nodal disease, where the template of classical extended LND is encompassed by a template including the common iliac arteries up to where the ureters cross. By this extended template up to 75% of the relevant lymph nodes would be removed.

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