

Prostatic cancer with metastasis to the testis

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Metastatic cancer to the testis is a rare phenomenon of prostate carcinoma with only 80 cases reported in the literature. Most of these secondary testicular tumors were diagnosed on routine pathohistological examination of testicular tissue after orchiectomy. The metastatic lesion was not identified on physical examination or in macroscopic dissection of the testis after surgery. Microscopy revealed an adenocarcinoma with a positive immunohistochemical stain for prostate specific antigen (PSA), and it was identified as metastatic prostatic adenocarcinoma. We report a case with metastasis to the testis whose local or distant sites for relapse could not be demonstrated in hormone refractory prostate cancer patient with PSA progression. These findings showed that the testicles should be examined carefully in order to detect metastatic sites in hormone refractory prostate cancer patients. [Turk J Cancer 2001;31(1):35-38]

Key words: Prostate carcinoma, testicular metastasis, hormone refractory

Testicular metastasis from carcinoma of prostate in a patient treated with anti-androgen therapy is a rare phenomenon. The reports of these kinds of testicular metastasis were more frequent in the past years, when the neoplasms were often treated with bilateral orchiectomy. The metastatic carcinoma of the prostate to the testis is commonly accepted as a sign of advanced disease and it is usually accompanied by multiple metastases to other organs, and unfortunately it is a silent phenomenon (1). The main ratio of metastatic testis tumors are 2% and most of them are leukemic patients (2). Interestingly not only adenocarcinoma of prostate but also transitional carcinoma of this organ can be detected as a testicular metastasis (3). On the other hand the prognostic significance of metastasis with testicular localization is still unknown.

Case Report

A 68 year old man was admitted to the hospital with symptoms related to prostatism. PSA was 12 ng/ml and digital rectal examination revealed cT2b

nodule. The prostatic biopsy showed prostatic adenocarcinoma with Gleason sum 3+4=7. There were no metastatic lesions on bone scan. Radical retropubic prostatectomy was performed in July 1994. Pathological stage was T_{3b}N₁M₀ according to TNM classification (4). The maximal androgen blockade was administered immediately after operation. PSA remained stable and undetectable for 1,5 years and subsequent bone scan with elevation of PSA revealed multiple metastatic lesions. Androgen withdrawal was attempted first, and bicalutamide 50 mg/day was administered. Severe inguinal pain accompanied progression in bone scan. PSA increased to 25 ng/ml. Due to noncompliance he was recommended to undergo bilateral orchiectomy and bicalutamide dosage was increased to 50 mg tid. Palliative radiotherapy was also applied. Microscopically adenocarcinoma was observed between the atrophic seminiferous tubules in this area. Neoplasm composed of large and small adenoid structures. Occasionally these glands showed cribriform pattern and infiltration in the form of single cells and cords (Figure 1). Immunohistochemical stains was positive for PSA in the specimen (Figure 2).

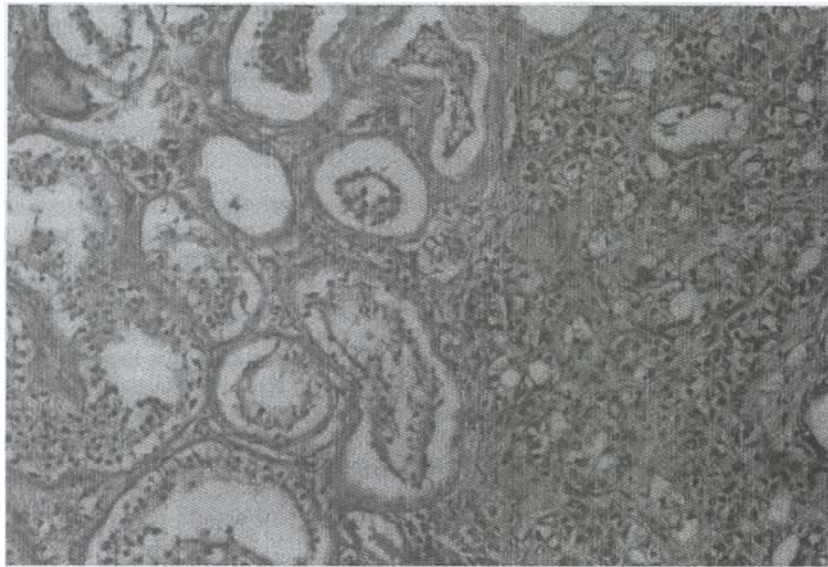


Fig 1. Atrophic testis parenchyma harboring metastasis from prostatic adenocarcinoma (H&E X100)

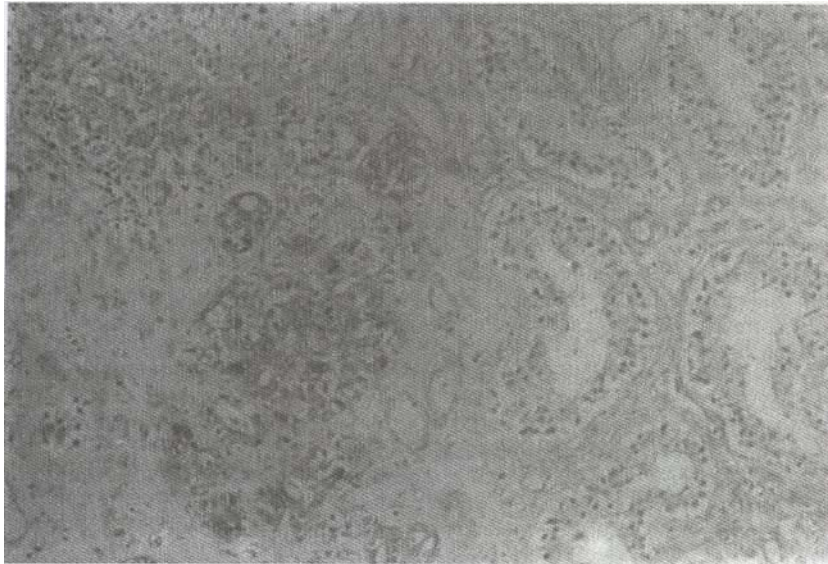


Fig 2. Positive staining for prostate specific antigen within the tumor cell (ABC technique X100)

Discussion

Metastasis to the testis from prostatic carcinoma is rare despite the high frequency of carcinoma of prostate and its ability of wide dissemination via 3 mechanisms: local extension, lymphatic metastasis and hematogenous metastasis. According to the autopsy findings most common sites of metastasis of prostate cancer are lung, bladder, liver and adrenal gland metastasis following lymph nodes and bone (5). The literature reveals only 80 cases of prostatic cancer spreading to testis and also bilateral cases were seen (6).

The frequency of metastasis to the testis is very low, only 2% of the testis tumors are metastatic. Hanash *et al* (7) reviewing 5,000 autopsies have reported one case of metastasis to the testis, Pienkos and Joblokow (8) found an incidence of 0.06% after reviewing 24,000 autopsies and they were unable to show any prostatic metastasis in their series. Similarly, Saitoh *et al* (5) were not able to show prostatic metastasis to testis after reviewing 1885 autopsies. The clinical picture of metastasis to the testis was inconstant and usually there was no palpable mass in testis similar to our case (9). However, the source of inguinal pain may well be due to this metastasis in our patient.

In conclusion, if local or distant sites for relapse could not be demonstrated in a hormone refractory prostate cancer patient with PSA progression, testicles must be examined for possible metastasis.

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