Case Report

Received: September 29, 1986

Accepted: October 15, 1986

Urol. int. 1987;42:77-78

Prostatic Cancer with Metastasis to the Testis

P.	Peter	Lyngdorf
K.	Karsten	Nielsen

Department of Urology and Department of Pathology, Gentofte Hospital, University of Copenhagen, Hellerup, Denmark

Key Words

Prostatic cancer
Metastasis
Testis
Immunohistochemical illustration

Abstract

Metastasis to the testis is rare. The site of primary tumor may be the lungs, the prostate or the large bowel. The clinical parameter is illustrated by a case history. The immunohistochemical method is taken into account.

P. Lyngdorf, MD, Rørmoseparken 44, DK-3450 Allerød (Denmark)

Introduction

Metastasis to the testis is a rare condition [1]. Most often the site of primary tumors is in the lung, the second most frequent site is controversial [1–3]. Usually cancer of the prostate spreads to the regional lymph nodes, the urinary bladder, the bone marrow and the lungs [4, 5]. The literature reveals only a few cases of prostatic cancer spreading to the testis, and therefore the aim of this paper is to report the clinical and pathological findings in an additional case.

Case History

A 76-year-old man was admitted to hospital for pains in the right hypochondriac region and intermittent fever for the past 2 weeks. Further, he complained of hesitancy and nocturia 10 times per night. Physical examination revealed an enlarged and painful liver and a prostatic gland of 50 g with heterogenic consistency and fixation to the left side.

Ultrasonic scan guided fine-needle aspiration of the liver revealed adenocarcinoma, and a transrectal biopsy of the prostate revealed a low differentiated acinar prostatic adenocarcinoma, positive for prostata specific antigen and prostata specific acid phosphatase, demonstrated by peroxidase-labeled indirect immunohistochemical methods.

X-ray examination of the vertebral column was without meta-static suspicion but X-ray of the pelvis showed osteosclerotic activ-

ity. Laboratory tests included serum acid phosphatase of 17.8 (ref. 0.6–3.3) and alkaline phosphatase of 825 (ref. 50–275), normal renogram and urogram. The patient started anti-androgenic treatment (cyproterone acetate) and was discharged from the hospital.

Four months later he was rehospitalized for relapsing pains which were immobilizing. Osseous scintigraphic examination revealed massive metastasis to the pelvis and the vertebral column. As the pains persisted in spite of the anti-androgenic medicine the patient underwent subcapsular orchiectomy.

Microscopically, the testis parenchyma of both sides was atrophic. In the interstitial tissue of the left testis a metastasis from the prostatic adenocarcinoma showing the same histological and immunohistochemical picture was found near the rete testis (fig. 1, 2).

The patient's condition deteriorated and 3 weeks later he died. Autopsy showed prostatic cancer with metastasis to the lungs, pleura, liver, vertebral column and lymph nodes in the mediastinum and the retroperitoneum.

Discussion

The frequency of metastasis to the testis is very low. Price and Mostofi [1] describing testicular tumors found 38 cases of secondary carcinoma of the testis in contrast to 1,600 cases of primary testicular tumors.

Hanash et al. [2] reviewing 5,000 autopsies reported 1 case of metastasis to the testis, which implicates an incidence of 0.02%, whereas Pienkos and Jablokow [3] found an incidence of 0.06% after reviewing 24,000 autopsies.

78

Lyngdorf/Nielsen

Fig. 1. Atrophic testis parenchyma harboring metastasis from a low differentiated acinar prostatic adenocarcinoma. HE. $\times 400$.

Fig. 2. Parallel section of the section illustrated in figure 1 showing metastasis from a low differentiated acinar prostatic adenocarcinoma, positive for prostatic specific antigen (immunoperoxidase technique for demonstration of prostatic specific acid phosphatase). $\times 1,000$.

The site of primary tumors according to Price and Mostofi [1] was in the lungs (14 cases), followed by the prostate (12 cases). Pienkos and Jablokow [3] found 7 cases of lung tumors with spreading to the testis, but no cases of prostatic carcinoma with metastasis to the testis. Elkin and Mueller [4] reported in their material that 1 out of 104 cases of prostatic carcinoma metastasized to the testis and Saitoh et al. [5] found no secondary testis tumors reviewing 1,885 autopsies of patients with prostatic cancer.

The clinical picture of metastasis to the testis is inconstant. Price and Mostofi [1] described that the testis involvement was unrecognizable in the clinical evaluation in 37 cases, and that the testis was enlarged in 6 cases. This corresponds to Pienkos and Jablokow's [3] findings with clinical evidence in 1 out of 15 cases with metastasis to the testis. In the case of our report the testis was normal at palpation. The metastasis was discovered after therapeutic orchiectomy with subsequent histological examination.

The histological picture of the metastasis is the same as the picture of the primary prostatic adenocarcinoma [1,4], which is in accordance with our findings. Furthermore, we found that the immunohistochemical picture of the metastasis is the same as the immunohistochemical picture of the primary prostatic adenocarcinoma. This corresponds with metastasis from prostatic adenocarcinoma in other organs [6], but it has never been demonstrated for metastasis to the testis before.

References

- Price, E.B.; Mostofi, F.K.: Secondary carcinoma of the testis. *Cancer* 10: 592–595(1957).
Hanash, K.A.; Carney, J.A.; Kelalis, P.P.: Metastatic tumors to the testicles: routes of metastasis. *J. Urol.* 102: 465–468 (1969).
Pienkos, E.J.; Jablokow, K.R.: Secondary testicular tumors. *Cancer* 30: 481–485 (1972).
Elkin, M.; Mueller, P.H.: Metastasis from cancer of the prostate: autopsy and roentgenological findings. *Cancer* 7: 1246–1248 (1954).
Saitoh, H.; Hida, M.; Shimto, T.; Nakomura, K.; Yamagata, J.; Satoh, T.: Metastatic pattern of prostatic cancer. *Cancer* 4: 3078–3084(1984).
Venable, D.D.; Hastings, D.; Misra, R.P.: Unusual metastatic pattern of prostatic adenocarcinoma. *J. Urol.* 130: 980–985 (1983).