Testicular Metastases From Prostate Carcinoma

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Metastasis of prostate carcinoma to the testis is seldom reported. The tumour may spread from the prostatic urethra by retrograde venous extension, arterial embolism or through direct invasion into the lymphatics and lumen of the vas deferens. Clinical manifestations of secondary testicular tumours from the prostate are most often unsuspected clinically and are instead detected incidentally during orchidectomy. Less frequently, a palpable mass is detected, which may be confused with a primary testicular neoplasm. We report a case of a 66-year-old patient with adenocarcinoma of the prostate, and a left testicular tumour that was diagnosed as metastases from prostate carcinoma after radical orchidectomy. [Asian J Surg 2010; 33(3):154–6]

Key Words: neoplasm metastasis, prostate cancer, testicular cancer

Introduction

Prostate carcinoma seldom metastasizes to the testis despite the proximity. Testicular metastases generally are painless and are, in up to 4% of cases, detected incidentally after orchidectomy for treatment of advanced prostate carcinoma.1–4 The first case of prostate carcinoma metastasizing to the testis was reported by Semans in 1938.4 In 1957, Howard5 reported the first case of bilateral metastases to the testis from carcinoma of the prostate. In 1957, Price and Mostofi found 38 cases of secondary carcinoma of the testicle among more than 1,600 instances of testicular tumour, and 12 of these were of prostatic origin.5

We report the first case of testicular metastases from prostate carcinoma found in our institution. To the best of our knowledge, no other cases of testicular metastases from carcinoma of the prostate have been reported in Indonesia.

Case report

A 66-year-old male was admitted to Cipto Mangunkusumo Hospital complaining of lower urinary tract symptoms and a left scrotal mass that had been present for several years which had never caused any pain. Physical examination revealed that the man’s kidneys were neither palpable nor tender, nor was the bladder, but when an uroflowmetry evaluation was done, the residual urine was 126 mL. Left scrotal examination revealed a mass measuring 10 cm × 7 cm × 7 cm, and the consistency was hard and not tender. On digital rectal examination the prostate was palpable with hard consistency on both lobes. There were no nodules or tenderness.

The laboratory findings revealed a prostate specific antigen (PSA) level of 40 ng/mL. Tumour markers for testis tumour were, lactate dehydrogenase 211 U/L,
alpha-fetoprotein 8.9 IU/mL and beta-human chorionic gonadotropin 0.10 mIU/mL.

A transrectal ultrasonography-guided biopsy of the prostate was performed and the histopathological result revealed moderate to well differentiated adenocarcinoma of the prostate. A bone scan showed metastatic involvement of the spine, ribs, pelvis and scapula. The chest X-ray was normal. The patient was diagnosed with adenocarcinoma of the prostate T2c Nx M1b, with urinary retention and tumour of the left testicle.

On March 1st 2004, the patient underwent transurethral resection of the prostate, right subcapsular orchidectomy and left radical orchidectomy. Histopathological examination of the prostate specimen revealed poor to moderately differentiated adenocarcinoma of the prostate (Figure 1). The mass in the left testis measured 9 cm × 5 cm × 4 cm. Microscopic examination of the testis revealed invasion by metastases from prostatic carcinoma (Figure 2). An immunohistochemical PSA examination of the specimen was performed and revealed diffuse immunoreaction with moderate to severe intensity (Figure 3). This proved that there was metastasis from the prostate to the testis. Thus the postoperative diagnosis was adenocarcinoma of the prostate T2c Nx M1c.

In December 2004, the patient attended a follow-up examination and still complained of bone pain. His PSA level was 33.27 ng/mL but he refused to take any further treatment. Last follow-up was done by telephone on March 2005 (1 year after orchidectomy), and the patient was still alive despite his elevated PSA.

**Discussion**

The peak incidence of secondary testicular metastases from all tumours is the sixth decade. Therefore, we should suspect an abnormal testis in an older patient to be a possible sign of metastatic lesion from a primary tumour.6

Even though secondary tumours of the testis are uncommon, most authors believe that they most frequently originate from malignant lesions of the prostate gland or the lung. The tumour may spread from the prostatic urethra by retrograde venous extension, arterial embolism or by direct invasion into the lymphatics and lumen of the vas deferens.2,5

This is the first report from our institution that examines every testicular specimen from advanced prostate adenocarcinoma patients who underwent orchidectomy...
for over 10 years (1995–2005), and this is also the first case in our institution in which the metastatic lesion was detected by a palpable mass rather than through an incidental finding.

Clinical manifestations of secondary testicular tumours from the prostate are varied. Most often the lesions are unsuspected clinically, and detected incidentally during orchidectomy for advanced prostate carcinoma. 7 Less frequently, a palpable mass is detected which may be confused with a primary testicular neoplasm. 6 In 1960, Marble 8 reported 30 first cases of secondary carcinoma of the prostate in the testicle and found that in only 7 cases was the metastatic lesion detected by a palpable mass. In 1973, Weitzner 9 reported that, of the 15 cases with secondary carcinoma of the prostate in the testicle, only 2 cases presented with a palpable mass in the testicle, while in other cases the metastatic lesion was found incidentally. A review of 26 nonincidental cases of testicular metastases revealed that the prostate was the most common primary site (11 cases). Seven of the 11 patients developed clinically apparent testicular masses. 10

This case revealed that the patient had a palpable testicular mass and that our initial diagnosis was left testicle tumour which was concomitant with carcinoma of the prostate, but which turned out to be secondary metastases from the prostate.

Transurethral resection of the prostate and bilateral orchidectomy was performed in this patient. Left radical orchidectomy was carried out because we still suspected that there was a primary neoplasm in the left testicle.

References