BILATERAL TESTICULAR METASTASIS IN A CASE OF PROSTATE CARCINOMA: A CASE REPORT

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ABSTRACT: Prostate carcinoma is the most common malignancy in men in the world and the second leading cause of cancer death. The most common sites of metastasis are regional lymph nodes, bones, lungs, liver, bladder and brain. Testicular metastasis from Prostate carcinoma is very rare. Unilateral testicular metastasis is more common than bilateral metastasis. We report a rare case of bilateral testicular metastasis in orchiectomy specimen done for treatment of prostate carcinoma.

KEYWORDS: Prostate Carcinoma, Testicular Metastasis, Orchiectomy.

INTRODUCTION: Prostate carcinoma (PC) is the most common malignancy in men in the world and the second leading cause of cancer related deaths. There were an estimated 1100000 new cases and 307000 cancer related death in 2012. PC is becoming a public health concern.1,2,3,4 PC with localized disease have a favorable prognosis and approximately 10-20% of PC patients show metastasis at initial diagnosis.1 The most common metastatic sites of PC are the regional lymph nodes, bones, lungs, liver, adrenal. Saini et al reported a case of omental metastasis of PC with malignant ascites.1,3,4,5,6

Testicular metastasis from PC are rare despite the proximity.3,4,6,7,8,9,10 We report a rare case of bilateral testicular metastasis in orchiectomy specimen done for treatment of PC.

CASE REPORT: A 62 years male patient came with the complaints of increase frequency of micturition, nocturia and weak urinary stream. He was hypertensive and diabetic, on treatment since 4 years. The positive finding on clinical examination was a significant prostatomegaly on digital per rectal examination.

On investigation his haemogram was within normal limits. Serum urea was 52 mg/dl, serum creatinine was 1.6 mg/dl and serum alkaline phosphatase was 289 U/L (Normal range 100-250 U/L). Serum Prostate specific antigen was 57.73 ng/ml. Serum total testesteron was 50.70 ng/dl. Serum beta Human chorionic gonadotropin (HCG) was 1.73mIU/ml (Normal range in males is less than 3 mIU/ml) and serum alpha feto protein was 1.67 ng/ml (Normal range upto 10ng/ml).

Urogenital Ultra Sonography showed enlarged swollen bilateral kidney with bilateral hydro-uretero-nephrosis and left ureteric calculus and hypertrophy of prostate with median lobe enlargement.
Whole body scan showed multiple skeletal metastasis involving left half of manubrium, D4 and D12 vertebrae, left rib, left iliac crest and left femur, right scapula, cervical vertebrae, bilateral femur, shoulder, knee and ankle.

Haematoxylin and eosin stained slides of transurethral resection of prostate specimen showed prostate adenocarcinoma with Gleason score of 3+4=7. (Figure 1)

Bilateral orchiectomy was done for the treatment of prostate carcinoma. Sections showed atrophic seminiferous tubules along with malignant cells in groups and comado pattern. Cells had moderate amount of pale cytoplasm vesicular nuclei with prominent nucleolus.

It was reported as metastasis of prostate adenocarcinoma in testis (Figure 2). An immunohistochemical prostate specific antigen (PSA) examination was performed and it revealed strong cytoplasmic immunoreaction. (Figure 3). This proved that the testicular metastasis were from the prostate adenocarcinoma.

**DISCUSSION:** Testis is a rare organ for metastatic neoplasm.\(^4\) Metastatic tumors in testis excluding lymphoma and leukaemia are extremely rare.\(^6,11,12\) The main reason for relatively low incidence of metastasis to the testis can be explained by the unfavorable condition for the establishment of metastatic tumors with relatively low temperature of the scrotum.\(^4\)
CASE REPORT

Metastasis to testis is most commonly from the prostate, lung, colon, stomach, melanoma, and kidney. Increased detection of testicular metastasis from prostate carcinoma can be explained by orchiectomy done for prostate carcinoma.\textsuperscript{3,4,11,12,13}

Semans in 1938 reported the first case of prostatic carcinoma metastasizing to testis.\textsuperscript{3}

In autopsy reviews the incidence of testicular metastasis from prostatic carcinoma was found to be 0.02-2.5%. Approximately 4% of the patients with prostate cancer were incidentally diagnosed after orchiectomy done for treatment.\textsuperscript{3,4,6,12,13,14}

Testicular metastasis from prostate carcinoma are rare despite the proximity.\textsuperscript{3,4,6,7,8,9} There are numerous possible routes by which the prostatic carcinoma metastasize. The tumor may spread from the prostatic urethra by retrograde venous extension or embolism, arterial embolism or by direct invasion into the lymphatics, adjacent tissue, transperitoneal seeding through communicating hydrocele sac and lumen of vas deferens.\textsuperscript{3,5,15} In the present case the angiolymphatic extension can be suspected.

Unilateral testicular involvement is more common than bilateral involvement.\textsuperscript{4,13,15} This patient had bilateral testicular metastasis.

The presence or absence of metastasis in a patient of prostate carcinoma determines the prognosis of the patient.\textsuperscript{5,10} Testicular metastasis from prostate carcinoma is commonly excepted as a sign of advanced disease. The clinical picture of metastasis to the testis is inconstant and usually there is no palpable mass in the testis. Most of these are diagnosed on routine histopathological examination of testicular tissue removed for the treatment of prostate carcinoma.\textsuperscript{3,6,8,9, 12,14,15}

Manikandan 2006 et al reported a case of bilateral testicular metastasis 7 years after the initial diagnosis of prostate carcinoma where the patient presented with testicular lump.\textsuperscript{9}

We report this rare case of bilateral testicular metastasis from prostate carcinoma in orchiectomy specimen done for the treatment of prostate carcinoma.

This shows the importance of careful histopathological examination of the testicular tissue removed for the treatment of prostate carcinoma. Immunohistochemical study helps in confirming the diagnosis.

REFERENCES:
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