Metastatic Prostatic Carcinoma to the Testis: A Rare Case Report
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Abstract
Prostatic carcinoma is one of the most common malignancy in aged males. The incidence of metastatic prostatic adenocarcinoma is well known with most common site being the bone followed by lung and liver. Metastasis to testis is rare and very few cases have been reported till date. We present a case report of 80 year old male who presented with swelling in the left testis since last 4 months with a history of radical prostatectomy performed 3 year back for resection of a malignant growth in the prostate. Left inguinal orchiectomy was done. Histopathological examination showed foci of atypical cells in acinar arrangement infiltrating into the tunica adventitia of the testis, suggestive of metastatic prostatic adenocarcinoma to the testis. Positive immunoexpression of AMACR and negative p63 expression further potentiated our diagnosis. This case report stresses the need for aggressive post-operative follow up in prostatic carcinoma patient and to consider the need of prophylactic orchiectomy in old patients.

Keywords: Adenocarcinoma, Metastasis, Orchiectomy, Prostate, Testis

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INTRODUCTION
Prostate carcinoma is the most commonly diagnosed carcinoma in the elderly male population of more than 50 years of age [1]. It is frequently an adenocarcinoma of acinar types with involvement of peripheral zone (posterior and lateral lobes) in most of the cases. In the early stage of the disease there may be no sign and symptoms, which develops in later stages of the disease due to compressive effects on the urethra with features of difficulty in urination, dribbling of urine, erectile dysfunction followed by bone pain in the terminal stages.

Most important risk factor is age and risk of prostatic malignancy increases with advancing age. It is diagnosed by a combination of digital rectal examination and serum prostate specific antigen (PSA) levels [2]. Extra prostatic invasion in seminal vesicle, bladder base and urethra is well known [3]. In later stage, frequent site of metastasis is pelvic group of lymph nodes followed by bone and the lung.

Early Radical prostatectomy is the primary treatment of choice owing to metastatic nature of tumour. It rarely metastasizes into the testis which is reported in about 0.5% cases only [4]. Semans’ in 1938 published first case of prostatic carcinoma with metastases into a testis [5]. Haupt et al., in 1984 reported 2 cases of occult malignancy with first manifestation as testicular mass [6]. They also reported that distinction of primary from metastatic testicular tumour in absence of previous diagnosis of primary pose a diagnostic challenge [6]. Metastatic deposit to the testis are more common from primary in the lung followed by the prostate and the gastrointestinal tract [7]. They are often detected incidentally after orchiectomy for advanced disease elsewhere [8]. We present this case report of a secondary testicular mass from primary prostate cancer due to its rarity and a sincere suggestion that a testicular mass should be investigated with a prompt suspicion so as to not miss a metastatic foci of a primary lesion.

CASE SUMMARY
An 80 year old male presented to the surgery out-patient department with history of swelling in the left testis, bleeding per rectum and urinary incontinence since the last 4 months. The swelling was 2x3 cms in size, painless, firm to hard in consistency and associated with heaviness in the scrotum and not associated with any inguinal lymphadenopathy. His treatment history revealed radical prostatectomy performed 3 years back for prostatic carcinoma. Previous histopathology report showed the diagnosis of primary prostatic
adenocarcinoma with gleason score of 8 without any
evidence of metastasis. He was administered 50Gy of
Co-60 radiotherapy and cisplatin 50mg x 6cycles of
chemotherapy and subsequently advised routine
assessment of serum PSA levels and imaging to rule out
metastasis in the bone, liver and lung at 6 monthly
interval.

General examination was normal except for
mild pallor. Systemic examination was unremarkable.
Abdominal examination revealed vague generalised
pain in the lower abdomen with history of 1-2 episodes
of vomiting. Examination of the left testis showed a
mild tender 2.5x2.5 cms firm to hard swelling in the
lower pole of the testis.

Routine examination like haemogram, general
blood picture, urine examination, liver function test,
renal function test, lipid profile, iron profile and
electrocardiogram were within normal range except for
presence of microcytic hypochromic anaemia owing to
iron deficiency and recurrent rectal bleeding. Imaging
studies viz., x rays of chest and abdomen showed
normal studies. MRI and PET scan of abdomen were
normal. CT scan of lower abdomen revealed a swelling
in the left testis with involvement of the epididymis
and the rete testis. Right testis was normal. Serum PSA,
CEA, AFP and beta HCG were within normal limits.

A provisional diagnosis of testicular carcinoma
was made and left radical orchiectomy was performed.
Histopathological examination showed foci of atypical
cells in acinar arrangement infiltrating into the tunica
adventitia of the testis (Figure 1 and 2) with variable
sized thick walled seminiferous tubules having few
spermatocytic precursors and spermatids (Figure-3).
Immunopexpression of AMACR was positive (Figure-4)
while CK903 and p63 was negative (Figure-5). A final
diagnosis of metastatic prostatic carcinoma to the testis
was made. The patient was thereafter administered 6
cycles of anthracycline based chemotherapy and anti-
androgen therapy for 6 months. Owing to old age
and risk of recurrent metastasis in right testis, patient
underwent prophylactic right orchiectomy in the same
operative settings. Follow up of the patient after 6
months revealed no metastatic disease and our patient is
doing well.
Prostate is an integral part of male reproductive tract and contributes to the maximum volume of ejaculate. It weighs 7-16 grams in normal adults. It may undergo physiological hypertrophy with increasing age due to prolong exposure with androgens known as benign nodular hyperplasia which involve transitional zone while carcinomas are known to involve the peripheral zone. Nodular hyperplasia causes symptoms due to compressive effects on urethra while carcinoma prostate cause symptoms in late stages and are usually detected incidentally [9].

Various studies suggest that prolonged androgens exposure (old age), heredity (common in first degree relatives), ethnicity (more common in Afro-Americans), environmental factors and acquired somatic mutations (TMPRSS2-ETS gene fusions) have important roles in the pathogenesis and progression of prostate cancer [10].

Secondary testicular tumours are mostly lymphomas and leukaemias. They usually are more common in old age group (50-60 years) and are mostly unilateral and rarely bilateral [11, 12]. Metastasis to the testis may arise most commonly from the prostate followed by gastrointestinal tract, lung, kidney and rarely melanoma [7].

CONCLUSIONS

Prostatic adenocarcinoma is a dreadful malignancy in the aged males. Routine follow up after radical prostatectomy should be performed with monthly serum PSA and radiographic investigations to rule out recurrence/metastasis to other organs. This case emphasizes the fact that testicular mass should be approached with clinical suspicion of metastasis and asserts the importance of early prophylactic orchiectomy in older males with subsequent metastasis to the contralateral testis.

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