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# Incidentally found metastatic prostatic carcinoma in a therapeutic orchiectomy specimen

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Bilal M, Uddin Z, Khan MA. Incidentally found metastatic prostatic carcinoma in a therapeutic orchiectomy specimen. *J Ayub Med Coll Abbottabad* 2019;31(1):129–30.

**CASE REPORT****INCIDENTALLY FOUND METASTATIC PROSTATIC CARCINOMA IN A THERAPEUTIC ORCHIECTOMY SPECIMEN****Muhammad Bilal, Zeeshan Uddin\*, Mohammad Ayaz Khan\*\***

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Metastatic tumour involving the testis is a rare event. Incidental discovery of metastatic cancer in a therapeutic orchiectomy is even rarer. We report a case of metastatic adenocarcinoma prostate found incidentally in one of the bilateral therapeutic orchiectomy specimens. The patient was a 55-year-old man presenting with back ache and generalized body aches. Clinical examination showed malignant feel of prostate. Bone scan revealed metastatic disease and a serum PSA level of >100 ng/ml. Clinical diagnosis of carcinoma prostate was established and subsequent bilateral orchiectomy for hormonal deprivation was performed. On gross examination of left testis, there was a small 0.7 X 0.6 cm suspicious area. Microscopically, this area showed an infiltrating tumour in the interstitium with entrapped seminiferous tubules. Focal intravascular tumour deposit was also noted. Immunohistochemical stain for prostate-specific antigen was positive in the tumour, which confirmed the diagnosis of metastatic prostate adenocarcinoma.

**Keywords:** Metastasis; Microscopy; Orchiectomy; Prostate Cancer; Testis

**Citation:** Bilal M, Uddin Z, Khan MA. Incidentally found metastatic prostatic carcinoma in a therapeutic orchiectomy specimen. J Ayub Med Coll Abbottabad 2019;31(1):129–30.

**INTRODUCTION**

Prostate adenocarcinoma is one of the frequently diagnosed malignancies in male population. Most common sites of metastasis include bone, liver and lung. Testicular metastasis is however, rare, majority diagnosed incidentally on about 2–4% of orchiectomy specimens performed for hormonal management of these tumors.<sup>1</sup> Usually these patients are over 60 years of age. Diagnosis is challenging as the disease can be very focal and careful gross and microscopic examination is required. Histologically it can be confused with Leydig cell lesions.

**CASE REPORT**

A 55-year-old male, resident of Afghanistan and a smoker for 40 years, presented with generalized body aches, more in back and inability to walk. His previous history was positive for left sided facial palsy. During the clinical examination, the prostate had a malignant feel per rectally.

His investigations showed marked anaemia and serum PSA level of greater than 100 ng. Trans-rectal ultrasound guided (TRUS) biopsy of prostate was planned, however his anaemia and otherwise frail condition did not permit general anaesthesia. Bone scan was done which showed metastatic disease. A clinical diagnosis of carcinoma prostate was therefore made and bilateral therapeutic orchiectomy for hormonal management was performed under local anaesthesia. Both the testis were submitted for routine histopathological examination. On gross

examination, the right testis measured 5.3 cm in greatest dimension and did not reveal any abnormal area on serial sectioning. The left testis which measured 5.0 cm in greatest dimension, on serial sectioning revealed a distinct, suspicious light yellow coloured solid area within the testicular parenchyma. This area measured 0.7×0.6 cm. Representative sections were taken and subjected to routine processing and stained with Haematoxylin and eosin (H & E). The microscopic examination of the right testis was unremarkable. The suspicious area in the left testis revealed an infiltrating tumour in the interstitium with entrapped seminiferous tubules (Figure-1). The tumour comprised of sheets of round to cuboidal epithelioid cells with mildly pleomorphic vesicular nuclei and moderate amount of eosinophilic to clear cytoplasm. Focal acinar pattern was also seen.

Tumour cells were seen focally invading the vessels. Mitotic figures were frequent. Given the clinical impression of advanced stage prostate adenocarcinoma and morphological characteristics of tumour, metastatic adenocarcinoma prostate was suspected. In the differential diagnoses, malignant Leydig cell tumour was considered. Therefore, immunohistochemistry was applied and the tumour focus was found strongly positive for prostate specific antigen (PSA) immunomarker, while negative for Inhibin (ruling out Leydig cell tumour) (Figure-2).

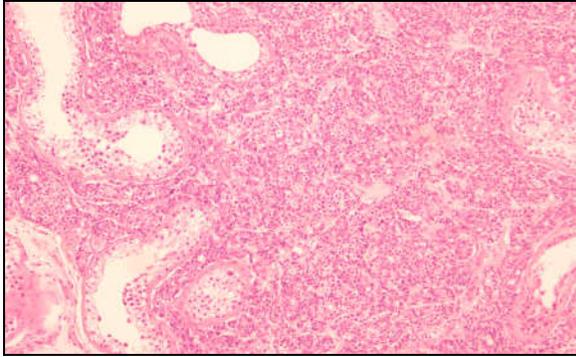


Figure-1: H & E, Tumour with entrapped tubules

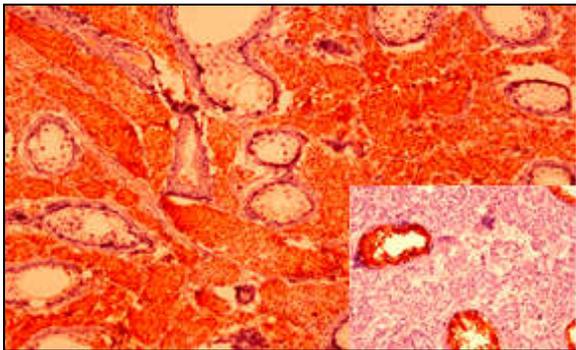


Figure-2: IHC, Strong diffuse staining for PSA.  
Inset shows negative staining for inhibin

## DISCUSSION

Metastatic tumours involving testis are uncommon. The primary tumours in most of these cases are found in the prostate, lungs and kidneys, whereas metastases from stomach, pancreas, bladder, rectum or penis are also on record. Despite the close anatomic relationship, high frequency of primary tumours and its ability for dissemination, prostate carcinoma rarely metastasizes to the testis. This is evident by the fact that only a couple of hundred cases are reported.<sup>2</sup>

Metastatic prostate cancer, in most cases is unilateral with only few cases reported with bilateral involvement.<sup>3</sup> Most of the secondary tumours are identified either incidentally after therapeutic orchiectomies or during autopsies.<sup>4</sup> Our patient, like most of those reported in the literature, did not have any testicular symptoms whatsoever. And despite being a clinically diagnosed case of prostatic adenocarcinoma with bone metastases, there was no clinical suspicion of metastases to testis. A fact to be noted is that our patient did not have any prostate

biopsy performed because of being clinically unfit for general anaesthesia and thus surgery, making this incidental histopathological diagnosis even more important in this particular case. Majority of the patients with metastatic tumours fall in an older age group (sixth or seventh decade), in comparison to patients with primary germ cell neoplasms of testis.<sup>5</sup> There are different mechanisms suggested for spread of carcinoma from prostate to testis including lymphovascular invasion. It may either be due to retrograde venous extension, arterial spread or lymphatic spread. Endocanalicular spread is also described as a mechanism.<sup>6</sup> The exact prognosis of patients with prostate carcinoma with testicular metastasis is not known, however, it is generally considered a sign of advanced disease.<sup>7</sup>

To conclude, incidental discovery of prostatic adenocarcinoma in a therapeutic orchiectomy is a rare event but should always be kept in mind while gross handling of such specimens. It further highlights the importance of subjecting all the human tissue for histopathological examination, careful and complete gross examination and adequate sampling of testicular and para-testicular structures.

### Declaration of conflict of interest:

It is declared that none of the contributing authors have any conflict of interest, including specific financial interests or relationships and affiliations relevant to the subject matter or materials discussed in this manuscript.

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