



Oncology

Metastatic prostate tumor to testes: Sign of advance disease

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ABSTRACT

Prostate cancer is the second most common cause of mortality for males in the United States. Metastases may be present, typically in the axial skeletal region. To date, few patients have presented with metastases to the testicles. We present the case of an adult male with diagnosed prostate cancer who presented and subsequently diagnosed bilateral testicular metastases. Testicular metastases secondary to diagnosed prostate cancer are very rare. Patients present with these metastases may have unfavorable prognosis. This case demonstrates that prostate cancer may metastasize to rare locations such as the testes, requiring further surgical intervention.

1. Introduction

Prostate cancer is the second most common cause of mortality for males in the United States. Pakistan is densely populated country located in south Asia. Its population has diverse ethnicity. Thus, there is no national data on incidence and prevalence of prostate cancer. But, according to global cancer observatory published in march 2021, prostate cancer rank 13 as far new cases were concerned while rank 16 (1.9%) in deaths in Pakistan. Men have a higher risk of developing prostate cancer as they become older. Undiagnosed prostate cancer patients may exhibit signs like increased urine frequency and straining. Metastases may be present, typically in the axial skeletal region.¹ To date, few patients have presented with metastases to the testicles. We present the case of an adult male with diagnosed prostate cancer who presented and subsequently diagnosed bilateral testicular metastases.

2. Case presentation

A 50-year-old male patient presented to Urology OPD. He complained of backache for 6 years and lower urinary tract symptoms for 2 months. He had been diagnosed with prostate cancer with metastases to the bone approximately 16 months ago on TRUS having initial PSA of 80.9 ng/ml with Gleason 5 + 4 (all 10 core positive). Staging CT chest abdomen and pelvis showed metastatic posterior mediastinal, para-aortic and pelvic lymphadenopathy with enlarged inguinal nodes. No definite visceral pulmonary metastases otherwise seen. Solitary osseous metastatic deposit involving right half of L2 vertebral body showing mixed lytic/sclerotic lesion on CT.

This case was discussed in MDT meeting, which recommended life-long hormonal therapy with systemic therapy for high volume metastatic disease. He received Palliative radiation to prostate for the control of hematuria and chemotherapy (Docetaxel/Prednisolone) for the systemic disease along with androgen deprivation therapy. Later at 3 months follow up, he complaint of increase in size of left testes. On examination, we found left testes hard in consistency and large in size as compared to right testes. PSA came down to 0.91ng/ml, so testicular tumor markers was advised which were within normal limits.

Based on clinical examination he underwent right side sub capsular Orchiectomy and left side total orchiectomy. Pathology following right testes was unremarkable while left orchiectomy showed metastatic prostatic adenocarcinoma. Tumor was confined to testis with intact capsule. Spermatic cord, tunica albuginea and resection margins were free of tumor. Lymphovascular invasion was seen in the left testicle and immuno/histochemical stain also performed which showed NKX3.1: Positive (Figure A) and OCT3/4: Negative (Figure B).

3. Discussion

Prostate cancer typically presents with metastases to the bone, distant lymph nodes, liver, and chest.¹ Metastasis to the testis is very rare, and most of them are incidental findings in 2–4% of orchiectomy specimens performed for hormonal management of advanced prostate carcinoma.² The first case of prostate carcinoma metastasizing to the testis was reported by Semans in 1938.³ Patients with metastases to the testes typically present with a swelling in the testis in the presence of an underlying known primary malignancy. The reported incidence of

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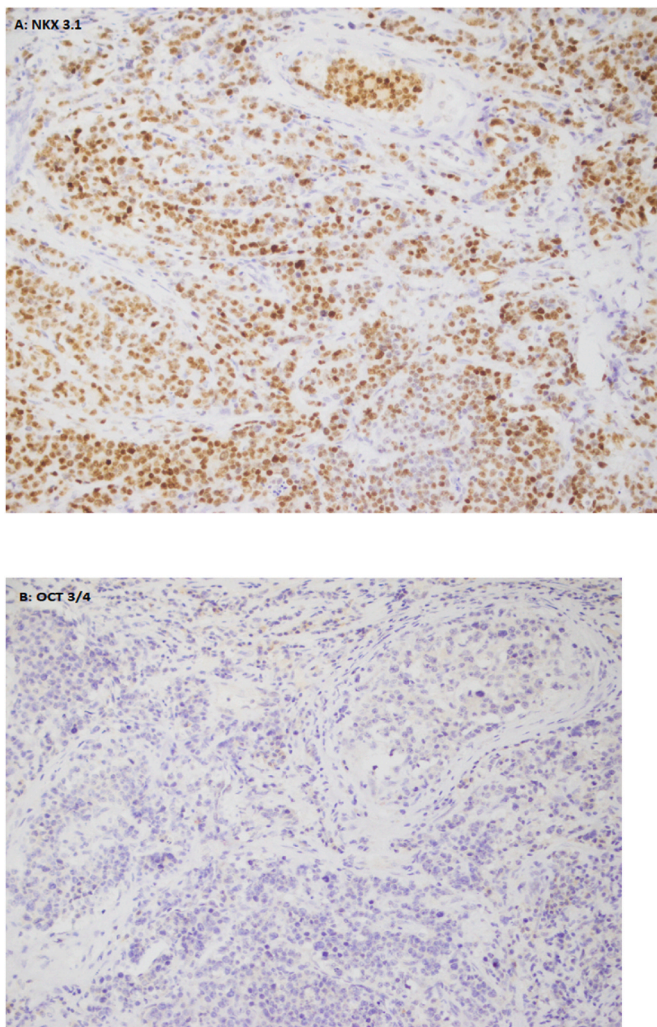


Fig. 1. Immuno/Histochemical stains.

secondary testicular neoplasms ranges from 0.02 to 2.5%, which is extremely uncommon.⁴

In patients with secondary neoplasms of the testes, the most common primary site of these metastases is the prostate at approximately 15%. Other common primary sites of testicular metastases include lung, skin, colon, and kidney. Prostate cancer metastatic lesions are typically located elsewhere in the body, particularly in the bone. This may seem

very unusual, given the proximity of the prostate gland to the testicles.⁵

Most of the patients who develop secondary metastases to the testis from prostate are in their sixth or seventh decades of life while primary testicular germ cell neoplasms, usually present in younger men.¹ Prostate cancer may spread to the testes due to retrograde venous extension, embolism, arterial embolism, lymphatics, or endocanalicular spread.⁵ In a 2008 review of 26 cases of testicular metastases, the prostate was the primary site in 11 cases and Out of these 11 cases, 7 patients had clinically apparent masses. Our patient also developed swelling that was clinically apparent. Unfortunately, once testicular metastases are diagnosed, prognosis is not favorable as it is usually a sign of advanced disease. The long-term outcome of bilateral orchiectomy in these patients is not known and further research is needed.

4. Conclusion

Testicular metastases secondary to diagnosed prostate cancer are very rare. The mechanism of spread from the prostate to the testis is clearly unknown. Patients present with these metastases may have unfavorable prognosis. Therefore, it is important to monitor patients with prostate cancer for swelling of the testis. This case demonstrates that prostate cancer may metastasize to rare locations such as the testes, requiring further surgical intervention.

Abbreviation

None.

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