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PROSTATE ADENOCARCINOMA PRESENTING WITH EXTENSIVE NODAL METASTASIS: A CASE REPORT

[1]*Dr. Santhoshkumar, [2]Dr. Deepak David, [3]Dr. D. Devaprasath Jeyasekharan, [4]Dr. Jerin J. Ovett, [5]Dr. Jeffrey Ashiq G.

[1]Mbbs DNB General Surgery Resident.
[2]MS (General Surgery), M.Ch (Urology), DLS (Laparoscopic Surgeon)
[3]MS (General Surgery), FAMS (Urology, Vienna), FRCS (Edin.)
[4]MD (General Medicine), DM (Medical Oncology)
[5]M.S. (Gen. Surg.), M.Ch. (Uro), DNB (Urology)

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***Corresponding author:**

***Dr. Santhoshkumar**

Mbbs DNB General Surgery Resident.

ABSTRACT

Background: Prostate carcinoma typically metastasizes to pelvic and retroperitoneal lymph nodes or bone. Distant nodal involvement, including cervical, axillary, and inguinal nodes, is rare and presents a diagnostic challenge. **Case Presentation**: We report an 80-year-old male presenting with lower abdominal pain and generalized lymphadenopathy. Laboratory evaluation revealed markedly elevated serum PSA (4412 ng/mL) with normal CEA (2.18 ng/mL). Imaging demonstrated grade II prostatomegaly and extensive lymphadenopathy in pre- and para-aortic regions, pelvic iliac nodes, and the left posterior triangle of the neck; chest imaging was normal. Tru-cut biopsy of the prostate confirmed adenocarcinoma with Gleason score 4+5, and cervical lymph node biopsy showed metastatic adenocarcinoma consistent with prostatic origin. The patient was initiated on docetaxel chemotherapy combined with androgen deprivation therapy (ADT). **Conclusion**: This case highlights a rare presentation of prostate carcinoma with widespread nodal metastasis and underscores the importance of comprehensive diagnostic evaluation and timely systemic therapy.

KEYWORDS: Prostate carcinoma; Distant lymph node metastasis; Cervical lymphadenopathy; Adenocarcinoma prostate; Prostate-specific antigen (PSA); Gleason score; Docetaxel; Androgen deprivation therapy (ADT).

INTRODUCTION

Prostate carcinoma is the second most common malignancy in men worldwide.[1,2] Metastasis typically involves regional pelvic and retroperitoneal lymph nodes or bone.[3] Distant nodal metastases, including cervical, axillary, and inguinal nodes, are rare and may mimic lymphoma or other malignancies, leading to diagnostic delays.[4,5] High-grade tumors, particularly those with Gleason scores of 8–10, often exhibit aggressive behavior and widespread metastasis.[6] This report describes an unusual case of prostate adenocarcinoma in an 80-year-old male with extensive nodal involvement.

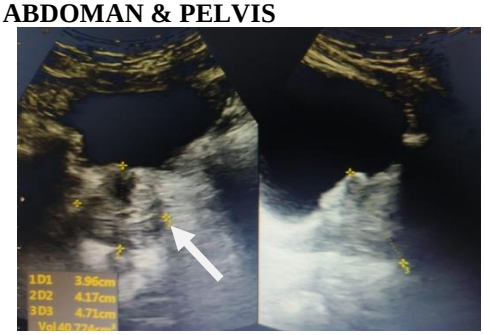
CASE PRESENTATION

An 80-year-old gentlemen, presented with lower abdominal pain for one week. He denied urinary symptoms, weight loss, or appetite changes.

Clinical Examination

Enlarged cervical, axillary, and inguinal lymph nodes. No palpable abdominal mass.
Digital rectal examination: hard, nodular, prostate.
Laboratory Investigations: Serum PSA: 4412 ng/mL, Serum CEA: 2.18 ng/mL

USG ABDOMAN & PELVIS



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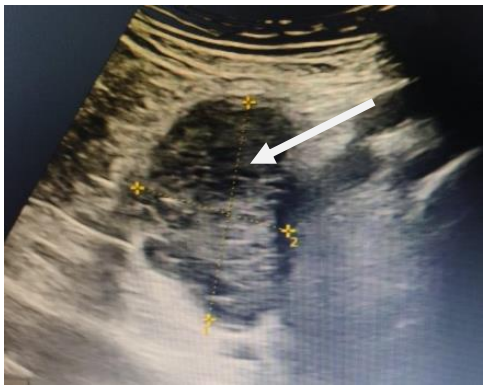
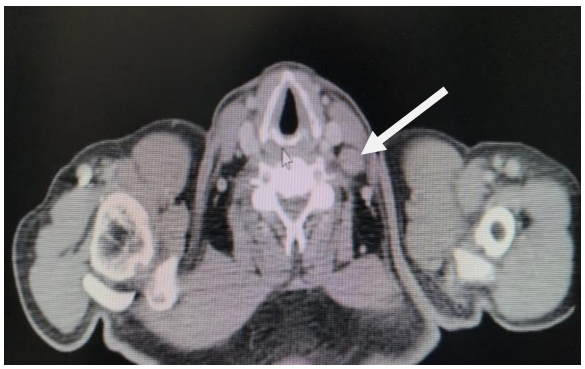


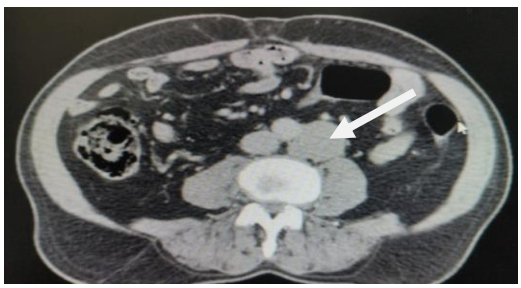
ENLARGED ILIAC NODES

Imaging (CECT): Chest: Normal; no pulmonary metastasis.

Neck: Enlarged lymph node 14 × 13 mm in the left posterior triangle.



Abdomen & Pelvis: Grade II prostatomegaly; multiple enlarged, homogenously enhancing lymph nodes in pre-para-aortic and left pelvic iliac regions; largest node 57 × 45 mm.



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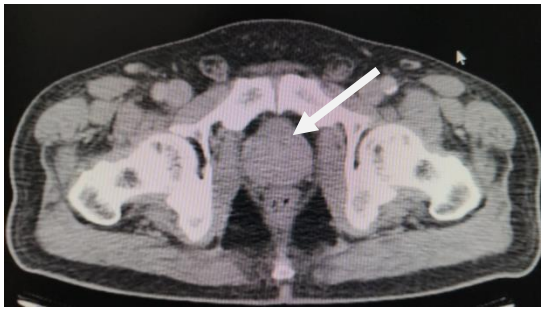


PROSTATE

Histopathology

Tru-cut biopsy of the prostate revealed adenocarcinoma with a Gleason score of 4 + 5 (ISUP Grade Group 5). Excision biopsy of the cervical lymph node demonstrated metastatic adenocarcinoma consistent with prostatic origin.

Final Diagnosis: High-grade prostate adenocarcinoma with extensive nodal metastasis.

Management and Follow-up

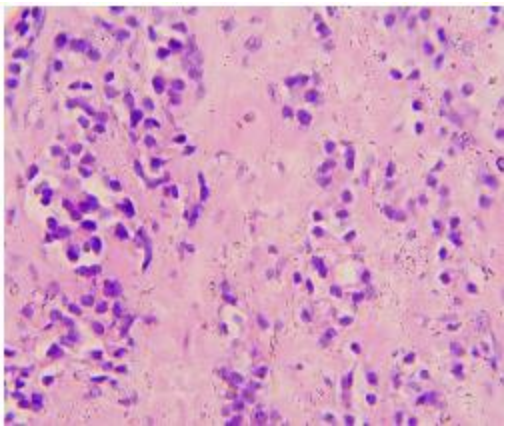
The patient was initiated on docetaxel chemotherapy in combination with androgen deprivation therapy (ADT), given the presence of high-grade, metastatic disease. Docetaxel has been shown to improve survival in patients with metastatic, high-volume, or high-risk prostate cancer. Ongoing monitoring includes serial PSA levels, periodic imaging, and regular clinical evaluations to assess treatment response and tolerance. The plan is to continue systemic therapy with necessary adjustments based on treatment response or adverse effects. Palliative measures will be considered if bulky nodal disease becomes symptomatic. On follow-up after three cycles of chemotherapy, the serum PSA was 20.5 ng/ml, and there were no clinically palpable nodes.

DISCUSSION

Prostate carcinoma most commonly metastasizes to regional pelvic and retroperitoneal lymph nodes or bone, whereas involvement of distant lymph nodes such as cervical, axillary, or inguinal nodes is rare. Aberrant lymphatic drainage pathways and the aggressive biological behavior of high-grade tumors are considered possible explanations for such unusual metastatic patterns.[3,4] Recognition of these atypical presentations is critical, as they may mimic other malignancies such as lymphoma and can potentially delay diagnosis and treatment.

Clinical Implications

The presence of widespread nodal metastasis in association with markedly elevated PSA and a Gleason score of 9 (4 + 5) reflects advanced disease and is typically associated with an unfavorable prognosis.[6]



Diagnostic Considerations

Generalized lymphadenopathy in such cases may closely resemble lymphoma or other malignancies, creating diagnostic challenges. Comprehensive evaluation with imaging modalities such as CECT or PSMA PET/CT, along with confirmatory histopathology, is essential for accurate staging and differentiation.[7,8]

Literature Review

Cervical and axillary nodal metastases from prostate carcinoma are exceedingly uncommon, with only sporadic cases described in the literature.[5,7] When present, extensive nodal disease is typically associated with markedly elevated PSA levels and aggressive histological features.[8]

Treatment

For patients with metastatic, high-risk prostate cancer, androgen deprivation therapy combined with docetaxel chemotherapy remains the current standard of care. Radiotherapy may be considered for palliation in cases of bulky or symptomatic nodal disease.[9]

This case underscores the importance of recognizing atypical metastatic patterns in prostate carcinoma and highlights the value of early initiation of systemic therapy to achieve optimal disease control in high-grade, extensive presentations.

CONCLUSION

Prostate adenocarcinoma can occasionally present with widespread nodal metastasis involving uncommon sites such as cervical, axillary, and inguinal nodes. A high index of clinical suspicion, supported by thorough imaging and histopathological confirmation, is essential for accurate diagnosis. Early initiation of systemic therapy, particularly with androgen deprivation therapy and docetaxel chemotherapy, plays a pivotal role in managing high-grade metastatic disease. Greater awareness of such atypical presentations is crucial for timely intervention and improved prognostication.

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