CASE REPORT

Prostatic Adenocarcinoma Incognito Manifestation as Generalized Lymphadenopathy: a Rare Case Report

Amit Sehrawat¹ · Satyanker Gupta¹ · Tiwari Alok²

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Abstract Generalized lymphadenopathy is a rare manifestation of carcinoma prostate. Here, we report a case of a 73-year-old male who presented with left supraclavicular lymphadenopathy along with hoarseness of voice and weight loss. His CT neck, chest, abdomen, and subsequently 18F-FDG PET CT were suggestive of generalized lymphadenopathy with skeletal involvement. He was not having any urinary or bone symptoms. The biopsy of supraclavicular lymph node revealed metastatic adenocarcinoma, whose prostatic origin was suggested by IHC staining of PSA. The diagnosis was confirmed by prostatic biopsy along with markedly raised serum PSA. We emphasize that in men with adenocarcinoma of undetermined origin, a suspicion of prostate cancer is important for accurate diagnosis and therapeutic approach.

Key Messages

We emphasize that in men with adenocarcinoma of undetermined origin, a suspicion of prostate cancer is important for accurate diagnosis and therapeutic approach. Any elderly male presenting with generalized lymphadenopathy, prostate cancer metastasis should also be considered especially if the biopsy reveals adenocarcinoma of undetermined origin in a clinical setting of raised PSA

✉ Amit Sehrawat
dramitsehrawat@gmail.com

Satyanker Gupta
guptasatyanker@gmail.com

Tiwari Alok
ialoktiwari@gmail.com

¹ DNB Medical Oncology Resident, Dharamshila Hospital and Research Centre, Vasundhara Enclave, New Delhi 110096, India

² DNB Surgical Oncology Resident at Dharamshila Hospital and Research Centre, Vasundhara Enclave, New Delhi 110096, India

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Introduction

Prostate cancer is the second most common cause of cancer and the sixth leading cause of cancer death among men worldwide [1]. This malignancy is marked by extreme clinical and biological heterogeneity. Lymphatic and hematogenous dissemination commonly occurs to involve the regional lymph nodes and the axial bony skeleton and, less commonly, the lung, liver, pleura, adrenals, and other soft tissue organs [2]. Supradiaphragmatic lymphatic metastasis is very rare and unusual. Here, we present a prostate cancer case with supradiaphragmatic lymphadenopathy and related symptoms without any urinary or bony symptoms. The case mimicked lymphoma/GI malignancy initially due to predominant B symptoms.

Case History

A 73-year-old chronic smoker presented to us with symptoms of a palpable hard swelling in the left supraclavicular region, hoarseness of voice, and significant weight loss. His general physical examination and clinical picture raised suspicion of either a lymphoproliferative disorder or GI malignancy. His CT neck revealed bilateral multiple-level cervical lymphadenopathy. His CT chest and abdomen were suggestive of multiple pretracheal, paratracheal, subcarinal, mediastinal, right hilar, and retroperitoneal lymphadenopathy. His upper GI endoscopy and direct laryngoscopy were unrevealing. The excisional biopsy done on the left

Fig. 1 Metabolically active lymph nodes at various sites along with multiple sclerotic intramedullary skeletal lesions over the entire skeleton

Fig. 2 Excellent treatment response on follow-up 18F-FDG PET CT scan

supraclavicular lymph node revealed features consistent with metastatic adenocarcinoma. His 18F-FDG PET CT scan revealed metabolically active lymph nodes at the abovementioned sites along with multiple sclerotic intramedullary skeletal lesions over the entire skeleton (Fig. 1), which showed excellent treatment response on follow-up 18F-FDG PET CT scan (Fig. 2).

A panel of IHC markers was run in consultation with the oncopathologist. The tumor cells expressed PSA and P504S without expressing CK7, CK20, TTF1, CDX2,

AFP, CEA, synaptophysin, and chromogranin A (Figs. 3 and 4). His serum PSA turned out to be 1650 ng/ml. Prostatic biopsy was subsequently done which revealed prostatic adenocarcinoma with Gleason's combined score (3a + 3b) with perineural invasion.

Bilateral orchidectomy was done, and the patient was put on medical androgen deprivation therapy (ADT). His overall condition improved quickly with normalization of voice, serum PSA, and partial resolution of radiological lesions after 3 months of therapy.

Fig. 3 Photomicrograph showing cytoplasmic expression of prostatic-specific antigen (PSA) by the metastatic tumor cells on immunohistochemistry (×200)

Fig. 4 Photomicrograph showing lymph node capsule and metastatic tumor cells in sheets having moderate cytoplasm and vesicular nuclei with intervening residual lymphocytes (H & E ×400)

Discussion

Carcinoma prostate is generally a slow-growing tumor of elderly without causing any symptoms, whereas a small fraction may behave aggressively. Unusually, a patient can present symptoms of urinary retention or paraparesis as a result of epidural metastasis and resultant cord compression. Patients have also been reported to have presented rarely with malignant ascites, isolated upper ureteric obstruction, severe obstructive constipation, and supraclavicular lymphadenopathy (as in our case).

Except for bony metastasis, distant metastases are relatively rare and include supraclavicular, mediastinal, pulmonary, and retroperitoneal metastasis [3]. Lymphatic metastasis generally occurs to obturator nodes followed by perivesical, hypogastric, iliac, presacral, and paraaortic nodes. About 70 % of tumors with Gleason's score 9 or 10 have coexisting lymphatic invasion at diagnosis. [4]. We searched thoroughly and could find cervical lymph node metastasis to be seen only in 0.4 % of carcinoma prostate patients [5, 6]. In a large series of mediastinal metastases, only 1 % was prostatic origin [7]. The clinical profile of our patient includes a differential diagnosis of carcinoma larynx, gastrointestinal malignancy, infectious etiology, collagen vascular disorder, and lymphoproliferative disorder including acute and chronic lymphocytic leukemia and malignant lymphoma. The avidity of tumor cells for PSA on IHC staining initially raised suspicion of prostate cancer, which was later confirmed on biopsy of the prostate gland. Tumor cells can theoretically lodge in the left supraclavicular lymph nodes in a retrograde fashion. Batson suggested that supraclavicular extension of prostatic cancer occurs hematogenously via the vertebral venous system or Batson's plexus, accessible via direct extension from the primary prostate cancer [8]. The prognosis and response to treatment with lymph node involvement is similar to other patients of metastatic prostate cancer [9].

To summarize, the present case suggests that any elderly male presenting with generalized lymphadenopathy, prostate cancer metastasis should also be considered especially if the biopsy reveals adenocarcinoma of undetermined origin in a clinical setting of raised PSA.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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