Metastatic Prostate Cancer Initially Presenting as Supraclavicular Lymphadenopathy

Sonam S* and Shipra S
Department of Pathology, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi, India

*Corresponding author: Sonam Sharma, Department of Pathology, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi, India, Tel: +919999841393; E-mail: drsonamsharma@gmail.com

Abstract
Prostate cancer is one of the most common neoplasm occurring in men worldwide. It can present with diverse clinicopathological features that can cause a diagnostic conundrum. We report one such rare and an unusual manifestation of this cancer in a 40-year-old male who initially presented with supraclavicular lymph node enlargement. There are very few cases in the literature which have described supraclavicular lymphadenopathy as the initial presentation of metastatic prostate cancer in men younger than 45 years of age. These patients rarely undergo digital rectal examination or serum prostate-specific antigen level measurement as part of their initial investigations. A high index of suspicion is necessary to make the diagnosis of prostate cancer in such atypical cases.

Keywords: Prostate cancer; Metastasis; Young age group; Supraclavicular lymphadenopathy

Abbreviations: PSA: Prostate-Specific Antigen; FNAC: Fine Needle Aspiration Cytology; AMCAR: Alpha-Methylacyl Coenzyme A Racemase; LCA: Leucocyte Common Antigen; TTF1: Thyroid Transcription Factor 1; WT-1: Wilm's tumor suppressor gene 1 protein; PLAP: Placental Alkaline Phosphatase; ER: Estrogen Receptor; PR: Progesterone receptor; CK: Cytokeratin; CT: Computed Tomography; ASH: Atypical Adenomatous Hyperplasia

Introduction
Carcinoma of the prostate is the second leading cause of cancer-related deaths in males in the world with 905,330 and 1.1 million cases and 258,400 and 307,000 deaths in 2008 and 2011, respectively. Almost 70% cases were from developed countries. The quantum of carcinoma prostate burden worldwide is expected to increase to 1.7 million new cases and 499,000 new deaths by 2030 because of population explosion and aging [1,2]. Peak incidence occurs between the ages of 70 to 74 years, less than 0.1% of all patients with prostate cancer are younger than 50 years of age [3]. It can have variety of presentations, including asymptomatic with normal or raised prostate-specific antigen (PSA) levels, local invasion and regional lymph node involvement or metastasis with systemic symptoms. The most common sites for its metastasis are regional lymph nodes (the obturator, internal and external iliac nodes, followed by the presacral and para-aortic node), bones, lungs, liver, brain and the epidural space [4]. Distant metastasis are relatively rare at diagnosis, and include supraclavicular, mediastinal, pulmonary and retroperitoneal nodes [5,6]. This report describes a case of prostate cancer metastatic to the left supraclavicular lymphnode in a 40-year-old male who was initially clinically misdiagnosed as a case of lymphoma.
Case Report

A 40-year-old male presented to the surgical outpatient department with the chief complaints of left supraclavicular mass since last 2 months. He also gave history of anorexia and weight loss. He denied any other subjective complaints, like difficulty in swallowing, breathing, urinary symptoms or bone pains. His past history, medical and family history were non-contributory. He had a 10-year history of smoking and drinking alcohol. On examination, the mass measured 3 cm x 3 cm in size and was firm in consistency. It was non-tender and fixed to the underlying tissues. The overlying skin was normal. Further physical examination revealed palpable nodes (ranging in size from 0.3 cm to 1.5 cm) in the left axilla. Rest of the physical examination, the inguinal region, external genitalia, scrotum and testes were unremarkable. A clinical diagnosis of lymphoma was made. Routine haematological and biochemical investigations were within normal limits expect for an elevated creatinine (4.8mg/dl), blood urea nitrogen (102 mg/dl) and PSA levels (40 ng/ml). A fine needle aspiration cytology (FNAC) of the supraclavicular mass was performed. On FNAC, the smears were highly cellular and showed presence of atypical cells with decreased cell cohesion and variable isolated cells. Micro glandular patterns were evident. The cells had indistinct cell membranes with high nuclear to cytoplasmic ratio and significant nuclear pleomorphism with prominent nucleoli in some. In the background of these cells, many reactive lymphoid cells in various stages of maturation were seen. Based on these findings, a possibility of metastatic carcinoma was suggested.

An excisional biopsy of the left supraclavicular mass was performed. Microscopic sections of this mass revealed a lymph node which was diffusely infiltrated by a tumor. The tumor cells were arranged in tubules and glandular structures. The individual tumor cell showed the presence of round to oval vesicular nuclei with prominent nucleoli and abundant amphophylic cytoplasm (Figure 1). Atypical mitosis was also seen. A panel of immunohistochemical markers were put. The tumor cells were positive for pan-cytokeratin (CK), Muc-1, PSA (Figure 2a) and alpha-methylacyl coenzyme A racemase (AMCAR) (Figure 2b) while they were negative for leucocyte common antigen (LCA), thyroid transcription factor 1 (TTF1), CK7, CK20, p-53, Bcl-2, CD117, p63, CD10, Wilm’s tumor suppressor gene 1 protein (WT-1), placental alkaline phosphatase (PLAP), estrogen receptor (ER), progesterone receptor (PR), synaptophysin, chromogranin, CD34, vimentin, desmin and S100.

Considering the morphological and immunohistochemical findings, a diagnosis of prostatic adenocarcinoma metastatic to the left supraclavicular lymphnode was made. Following this, a detailed clinical and radiological workup was advised to confirm the primary.
Supraclavicular Lymphadenopathy

Conclusion

Prostate cancer should always be considered among the differential diagnosis of men presenting with supraclavicular or any cervical lymphadenopathy, irrespective of the age and the absence of lower urinary tract symptoms. A thorough physical examination including digital rectal examination, measurement of serum prostate specific antigen and subsequently cytology and histopathology along with immunohistochemical stains play an important role in establishing the diagnosis of the prostate cancer in such an unusual clinical setting.

References