



A RARE CASE REPORT OF METASTATIC PROSTATE ADENOCARCINOMA IN A YOUNG 54 YEARS OLD MALE PRESENTING AS A LEFT SUPRACLAVICULAR LYMPHADENOPATHY

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ABSTRACT

Prostate adenocarcinoma (PA) is one of the most frequent cancers in males around the age of 50. The metastasis of PA occurs in advanced stages and most commonly to regional lymph nodes, pelvic and abdominal organs. But the distant spread of PA to cervical lymph nodes is sporadic, and only a few cases have been reported in the literature so far. Here, we present a case of swelling on the left side of the neck. The biopsy of the left supraclavicular lymph node revealed metastatic prostate adenocarcinoma (MPA). This presentation of MPA is infrequent because lymphadenopathy was the presenting symptom. The patient had no history or symptoms suggestive of primary prostate adenocarcinoma, and no prostate cancer workup before the biopsy. This presentation is quite unusual and an eye-opener in the differential diagnosis of lymphoma and metastatic lesion involving the lymph node.

KEYWORDS: Supraclavicular lymphadenopathy, Prostate cancer, Adenocarcinoma.

INTRODUCTION

The prostate's adenocarcinoma is a very prevalent cancer that presents in males and the second most common cause of cancer deaths.^[1,2] At present, one-third to one-half of prostatic adenocarcinoma patients have metastatic lesions. It is a significant risk factor for prostate-related illness and mortality in the United States. It has an approximate prevalence rate of 233,000 new cases and 29,480 casualties as of 2014, the most commonly diagnosed neoplasm and 2nd most common reason for prostatic neoplasm related fatalities in US males.^[3,4]

For proper diagnosis of prostate adenocarcinoma, the first and the only commonly used blood test ordered routinely in the United States is the detection of protein produced by a prostate gland called prostate-specific antigen (PSA), during the earliest stages of the prostate cancer. The PSA results correlate clinically with a localized disease confined to the prostate gland.^[5] Although the ultimate effect of early detection is contentious, it has contributed to early intervention and, in turn, decreased mortality rate related to prostate cancer. The occurrence of distant spread of metastatic prostate adenocarcinoma in supraclavicular lymph nodes is highly unusual, with a prevalence documented at approximately 0.28%.^[6]

Spread of prostatic adenocarcinoma to head and neck lymph nodes can have a relatively healthy and better prognosis with possibilities of prolonged survival if it can be diagnosed appropriately and treated effectively. Literature review and studies have proposed that metastatic prostate adenocarcinoma be excluded in patients presented with neck masses if they are older than 45 years of age.^[7] This case report highlights the importance and high index of suspicion of metastatic prostate adenocarcinoma in a patient who presented with unusual lymphadenopathy initially mimicking a hematologic malignancy.

Case Presentation

I present a 54-year-old man with a past medical history of Hypertension, Aortic dissection, and Diabetes mellitus presented with a year history of fatigue, weight loss, and five months of swelling on the left side of the neck. He denies any further symptoms, including no change in bowel habits, back pain, and urinary symptoms. On further questioning, the patient reported that there is no significant family history of cancer and does not drink alcohol and smoke. He also denied the use of drugs. He is happily married and in a monogamous relationship.

The physical examination revealed a left supraclavicular lymph node swelling measuring 5 x 4 cm. The node was firm, rubbery, painless, but difficult to get below it.

Chest and pelvic CT scans [Figure 6] identify the extent of the lesion and any other association. The scan revealed multiple bulky lymph nodes in the thoracic inlet, superior mediastinum, retro-peritoneum, and pelvic sidewall suggestive of lymphoma. The patient had a lymphoma worked up, and a core biopsy of the left supraclavicular lymph node.

The core biopsy revealed few lymphocytes with atypical small crowded uniform glands infiltrating the lymph node, which are morphologically similar to the prostate [Figure 1-2]. The atypical cells were negative for

immunohistochemistry stains (IHC); Cytokeratin 7 (CK7) and Cytokeratin 20 (CK20) but strongly positive for Prostate Specific Antigen (PSA), Prostatic Specific Acid Phosphatase (PSAP), CDX2, and Homeobox Protein NKX-3.1 [Figure 3-5]. The immunohistochemistry stain NKX3.1 is highly specific for prostate cancer and confirms the primary origin of tumor cells as the prostate. The patient had a serum PSA measured after the pathologic diagnosis of metastatic prostate adenocarcinoma, and the result came back as 37.44ng/ml. significant elevation in PSA has a direct clinical association with prostate carcinoma.

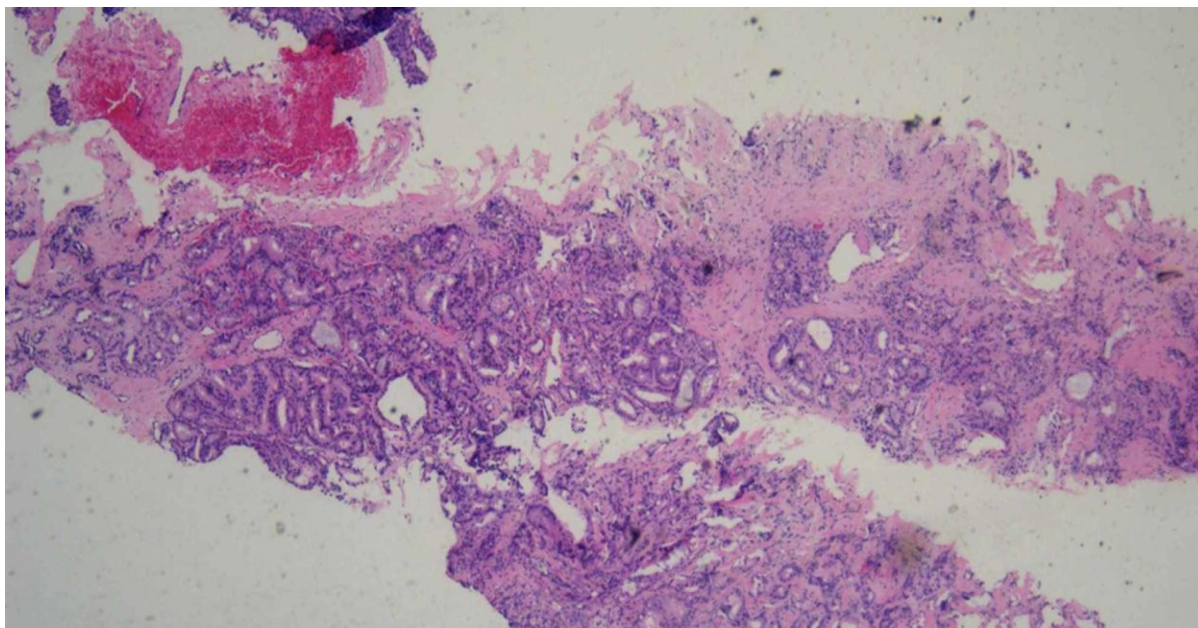


Figure 1: (low power) Small uniform crowded glands infiltrating the lymph node. Few lymphocytes are present.

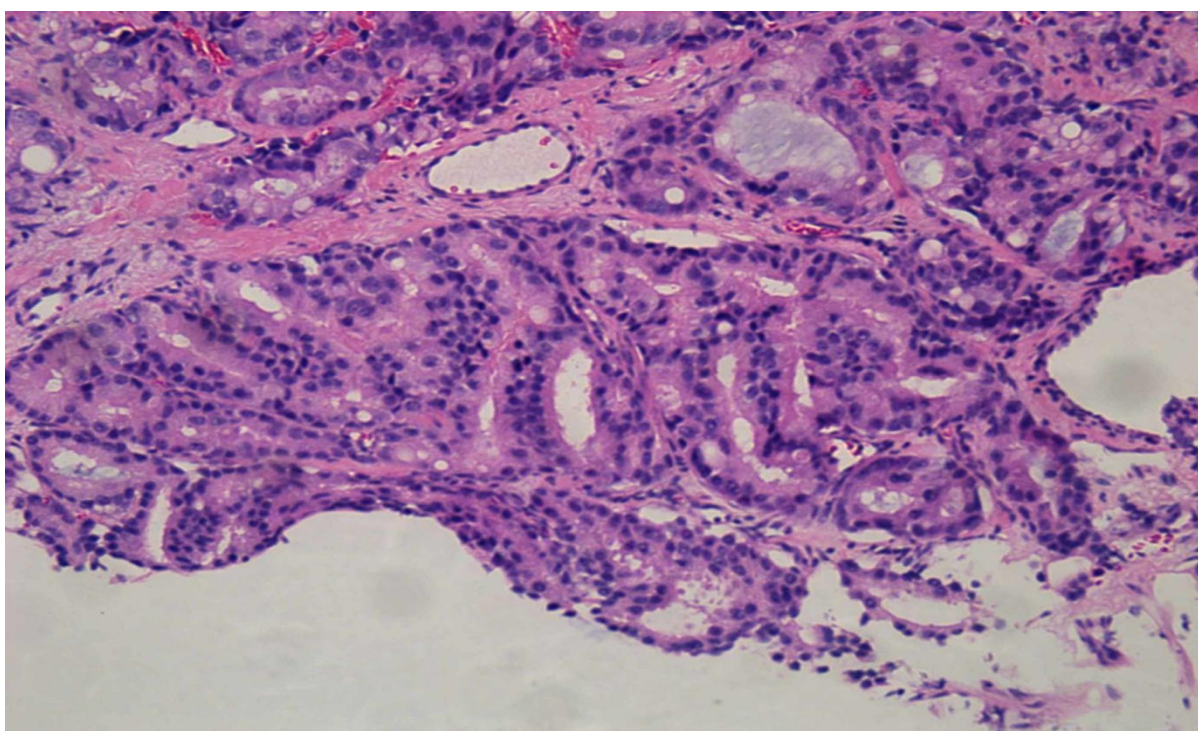


Figure 2: (high power) Atypical cells forming glands.

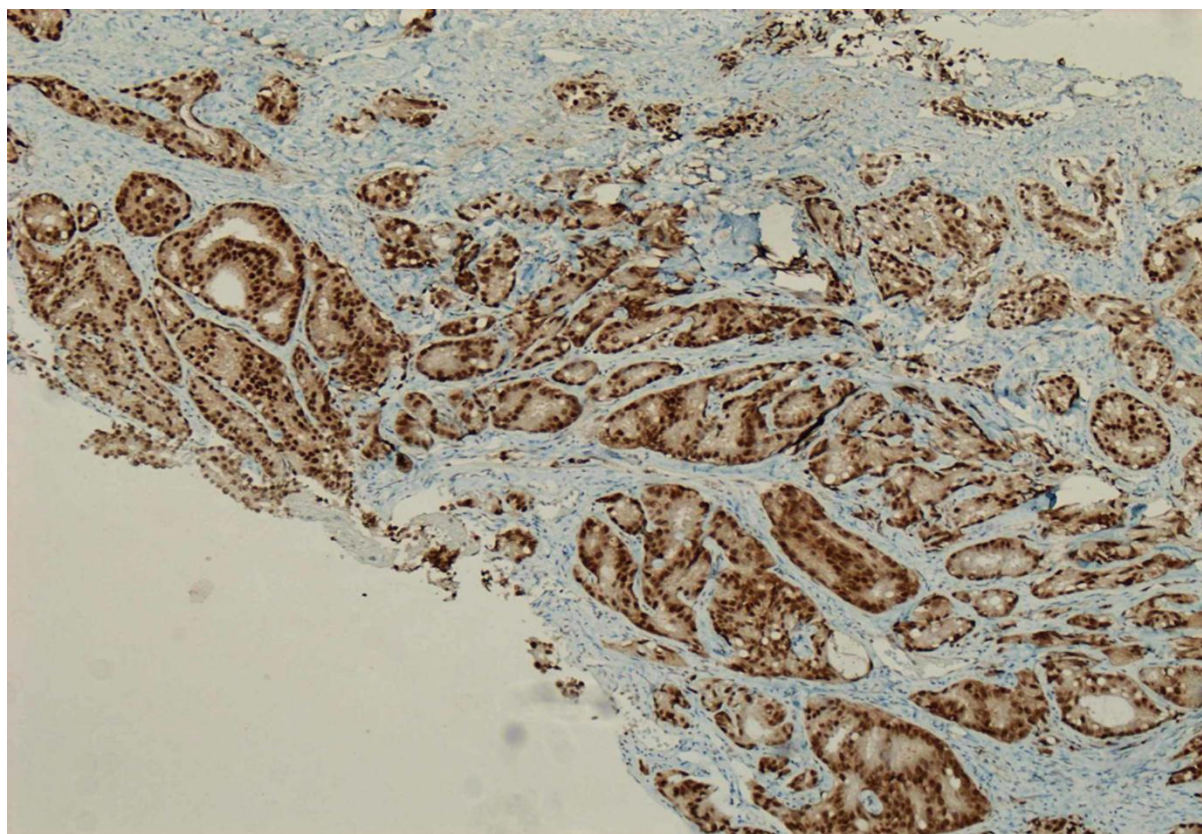


Figure 3: NKX-3.1.

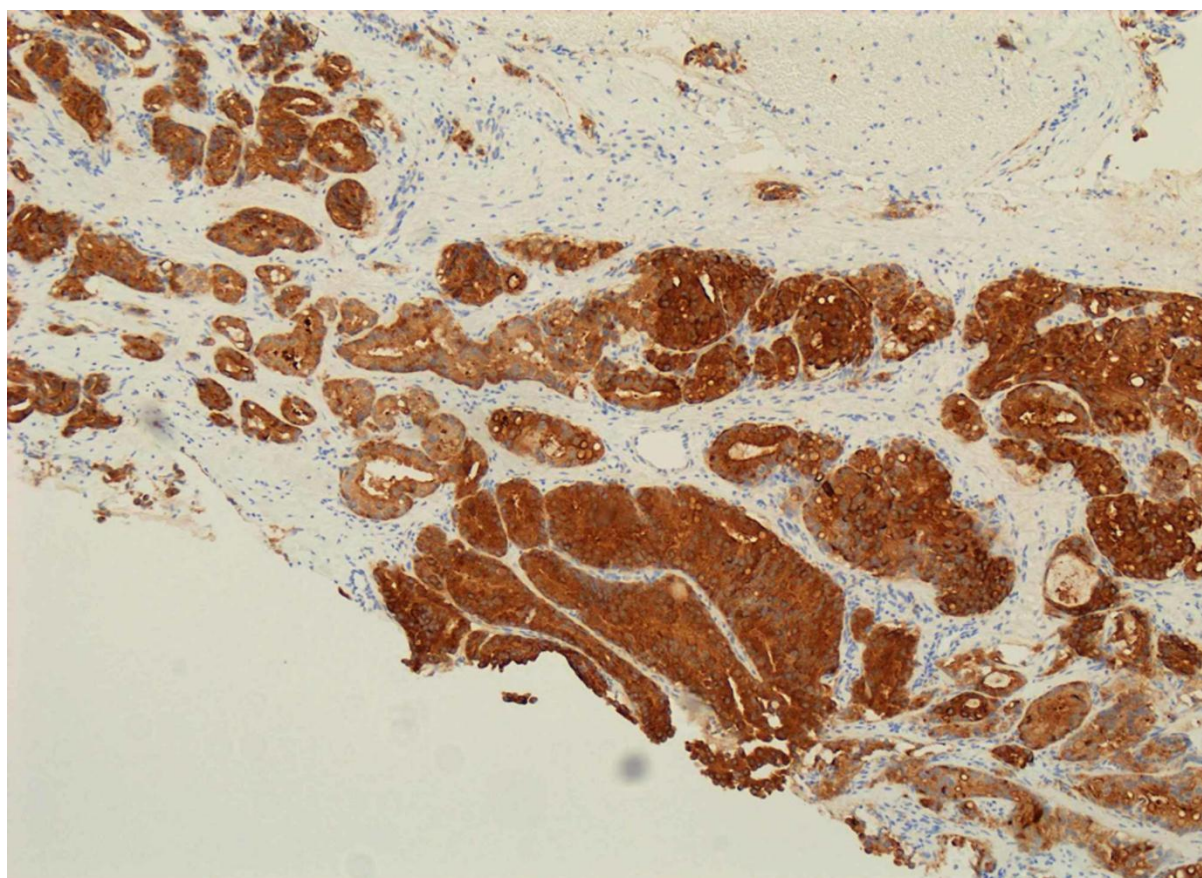


Figure 4: PSA.

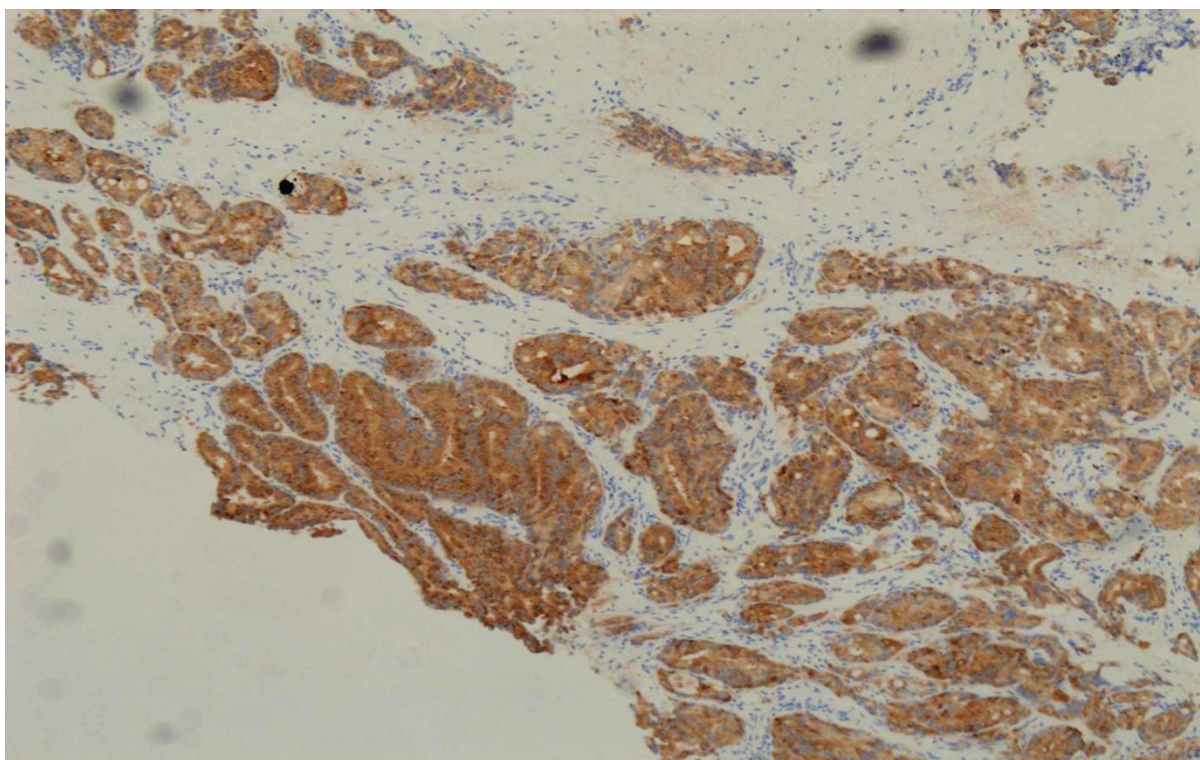


Figure 5: PSAP.

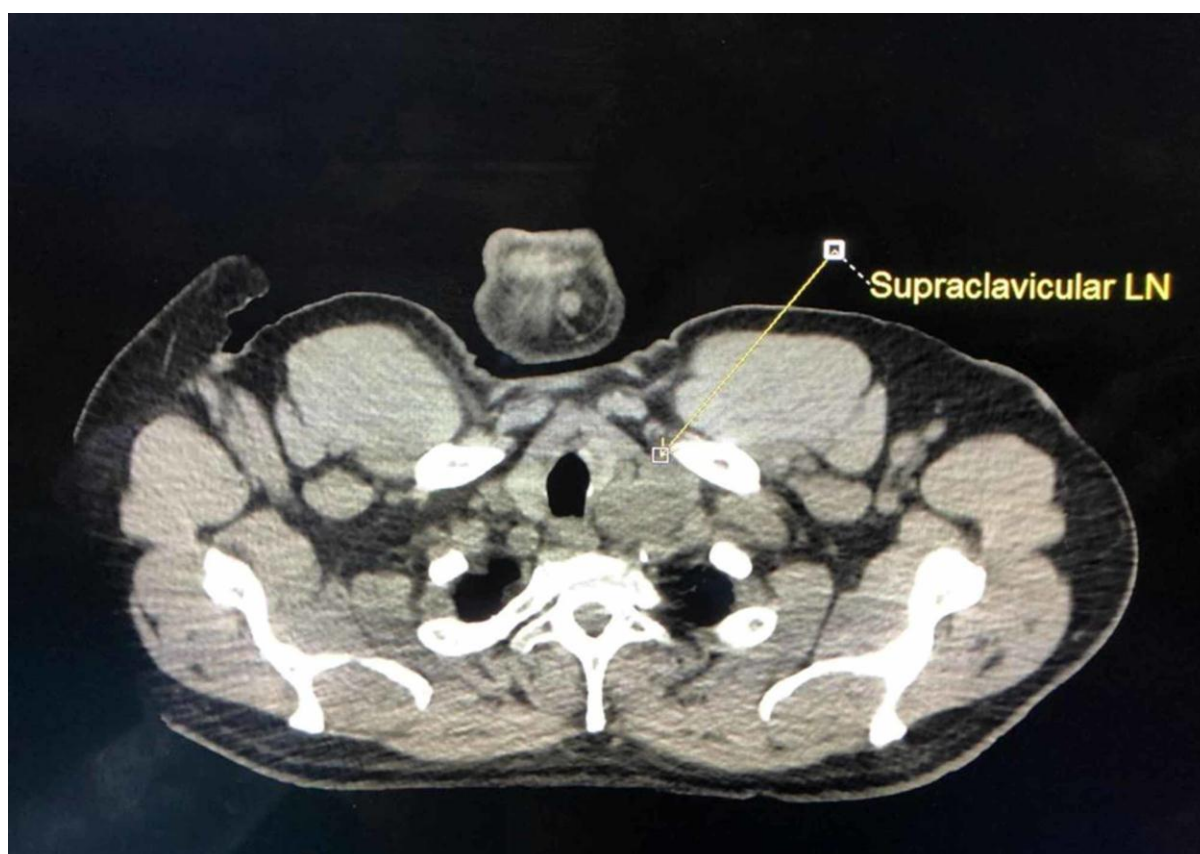


Figure 6: CT scan showing enlarged supraclavicular lymph node.

DISCUSSION

Metastatic prostate adenocarcinoma (MPA) to bones and regional lymph nodes are the most common, then the lung, bladder, liver, adrenal gland, and kidney.

Lymphatic spread most commonly involve the regional lymph nodes in the pelvic cavity and retroperitoneum, followed by the para-aortic lymph nodes. The informed occurrence of MPA involving the supraclavicular lymph

nodes is 0.28%.^[7,8] MPA is predominantly disease of men that occur mostly after the age of 50. In most instances, the patient present asymptomatic with elevated PSA, voiding difficulty, or abnormal digital rectal examination (DRE). Other symptoms include perineal pain, bone pain, urinary retention, and sometimes hematuria.^[9] Measurement of serum PSA and digital rectal examination are the most frequently used techniques for prostate cancer screening. They are generally simple and non-invasive. The American Cancer Society and the American Urological Association suggest offering yearly DRE and testing serum PSA from the age of 50 to men with no risk of prostate cancer and from a very young age to men with high risk.^[10] In our case, if the patient had a DRE included in the initial screening process, there won't be a delay in the diagnosis of MPA.

In the literature, patients over the age of 45 years with undiagnosed prostate cancer can present with MPA as first presentation, overall, MPA is rarely reported as the first presentation.^[7, 11, 12] James et al. emphasized that MPA should be in differentials when metastatic adenocarcinoma is found in the left supraclavicular lymph nodes of men older than 45 years. On the other hand, Kathleen et al. suggested that metastatic prostate carcinoma should be precluded using immunoperoxidase staining for PSA in all men older than 45 years coming with carcinoma of unknown primary origin in left-sided supradiaphragmatic lymph nodes.^[10,13] A diagnosis of cervical lymph node adenocarcinoma of the unknown primary in a male patient should not be called until prostatic origin has been ruled out.^[14] Immunohistochemical staining for PSA could be useful in analyzing the diagnosis of MPA; however, it is not explicit due to co-expression of PSA in other organs.^[7,9,14] Sometimes, carcinoma of the breast, lung, and salivary gland express PSA.^[8, 9] Therefore, serum PSA level, along with tissue biopsy, is suggested to establish the definitive diagnosis of MPA in patients with metastatic lesions as seen in our case.

The prognosis of MPA to the head and neck can be generally acceptable, with the chance of long-term survival after proper diagnosis and treatment.^[8, 9, 14] Jones and Anthony presented a series of 11 MPA patients with metastasis of carcinoma to the left-sided cervical lymph node. Despite high-stage disease in these patients, 6 of 11 patients were alive and well 101 months after diagnosis. The five patients who died had an average survival of 34.4 months; the author stated that after appropriate treatment, their outcome was superior to those with metastatic adenocarcinoma of non-prostatic origin, who died at an average of 2 months from the time of diagnosis.^[14] Chitale et al. reported two patients with MPA and cervical lymphadenopathy; one has remained symptom-free for three years at publication, and the other has been symptom-free for nine years.^[15] In Taiwan, Wang et al. reported three MPA's (69, 73, and 79 years of age) presenting with left supraclavicular

lymphadenopathy and stated that hormonal therapy was of benefit even in patients with the advanced-stage disease.^[16]

In summary, male patients with persistent left supraclavicular lymphadenopathy should have serum PSA levels estimated at the time of initial presentation, even if they are less than 45 years of age. Subsequent immunohistochemical stains of the lymph node biopsies should also be performed. These are crucial to establishing a definitive diagnosis of MPA and, in turn, to instituting appropriate management and achieving the best possible outcome.

CONCLUSIONS

An elderly male with lymphadenopathy should have an extensive workup, keeping the possibilities of a metastatic prostate carcinoma a differential diagnosis. Clinically and scientifically, it is reasonable to rule out the hematologic malignancies like lymphoma at first. Then it is also necessary to focus on and rule out possibilities of other unusual metastatic cancers like prostate cancer. This case report highlighted the unique presentation of metastatic prostate cancer to cervical lymph nodes without any significant history of typical prostate cancer symptoms of persistent back pain, urinary symptoms, fatigue, and weight loss. This case also emphasizes the importance of ruling out prostate cancer in a middle-aged male patient who presents with cervical lymphadenopathy. Always rule out the possibility of metastatic prostate cancer.

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