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Prostate cancer presenting as cervical lymphadenopathy

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Summary

Background:

Prostate cancer is the most common cancer in men in many Western countries and is the second-leading cause of cancer in men. More than 30% of men over the age of 50 will develop a malignant change in the prostate. Common sites of metastasis include bone and regional lymph nodes.

Case Report:

This is a case report of prostate cancer in an elderly man presenting with cough and cervical lymphadenopathy. The lymph node cytology reported moderately differentiated adenocarcinoma, and immunohistochemistry of the biopsy specimen with PSA staining demonstrated the malignancy to be of prostatic origin. The patient responded dramatically to androgen blockade therapy. Clearing of chest infiltrates and regression in size of cervical lymph nodes were evident within 6 months.

Conclusions:

Prostate cancer should be considered as one of the differential diagnoses of generalized lymphadenopathy in males with adenocarcinoma of undetermined origin, even in the absence of lower urinary tract symptoms. Immunohistochemistry with PSA staining can confirm the diagnosis. Hormonal therapy is an effective treatment modality, even in patients with an advanced stage of disease.

key words:

lymphadenopathy • prostate cancer • PSA marker

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BACKGROUND

Prostate cancer is the second most common cancer in men [1]. The axial skeleton and the nodes of the pelvis and the retroperitoneum are the most frequent sites of metastasis [2]. Non-regional nodal involvement as the first manifestation of prostate cancer is extremely rare [3]. This is a report of a case of prostate cancer in an elderly man presenting with cough and cervical lymphadenopathy.

CASE REPORT

A 70-year-old male presented to the surgical outpatient department with enlargement of left side cervical lymph nodes and dry cough of 3 months duration. Physical examination revealed multiple enlarged cervical lymph nodes, 2 cm in size, hard and fixed. Digital rectal examination revealed an enlarged prostate, hard in consistency. The patient did not have any urinary complaints. Air entry was reduced on both sides of the chest, with coarse crepitations on auscultation. USG of the abdomen and pelvis was normal. Chest X-ray showed multiple metastatic lesions on both sides (Figure 1). X-ray of the pelvis and spine was suggestive of

metastatic deposits. CT scan of the chest revealed multiple enlarged mediastinal lymph nodes in the retrocaval, paratracheal and tracheobronchial regions. Serum PSA level was 1000 IU/ml. The prostatic biopsy reported moderately differentiated adenocarcinoma (Gleason score 4+4=8) (Figure 2). Fine-needle aspiration cytology of the cervical lymph node demonstrated adenocarcinoma deposits (Figure 3). Immunohistochemistry staining of the biopsy specimen reviewed for PSA staining showed strong positivity, confirming the metastatic origin from the prostate. The patient underwent a bilateral subcapsular orchidectomy and Bicalutamide 50 mg once daily was started. Four months later, the PSA levels decreased to 31.3 IU/ml. Chest X-ray showed clearing of infiltrates, and a CT scan also showed significant positive response in terms of nodal status. At 6-month follow-up, the chest X-ray was normal (Figure 4) and there was significant regression in size of cervical lymph nodes. The present PSA level is 21.1 IU/ml. The patient is being followed up regularly.

DISCUSSION

Prostate cancer is the most common cancer in men in many Western countries and is the second-leading cause of cancer

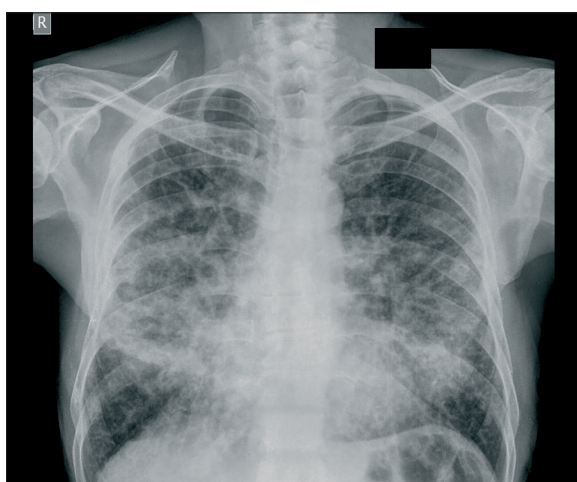


Figure 1. Chest X-ray of the patient at the time of admission.

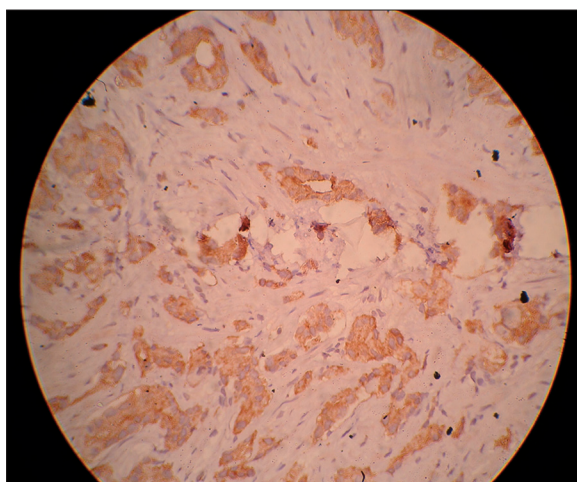


Figure 2. Microphotograph of the prostate specimen showing PSA marker positivity.

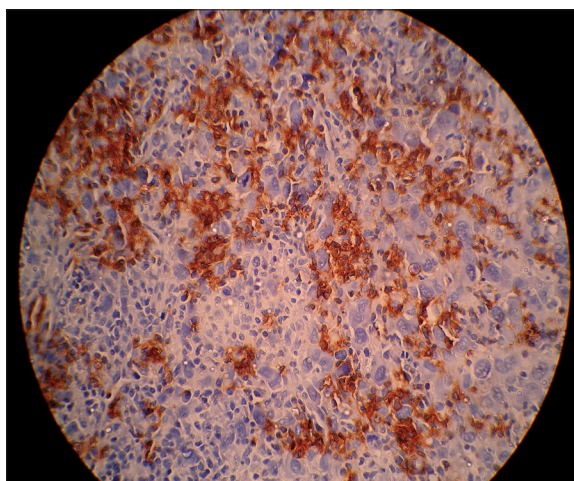


Figure 3. Microphotograph of the immunohistochemistry showing the PSA positivity in the cervical lymph node specimen.

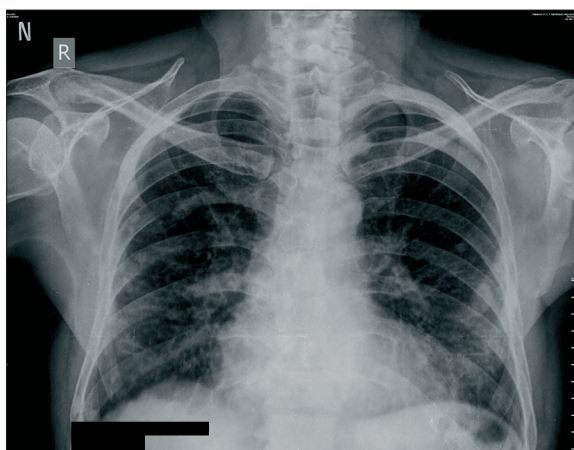


Figure 4. Chest X-ray after 6 months of therapy.

deaths in men. The most common sites of metastasis are bone and regional lymph nodes, with reports of 66.8% and 68%, respectively, in autopsied cases. Additional sites of metastatic involvement include lungs (49.1%), bladder (39.2%), liver (35.6%) and adrenals (17.3%) [4]. The incidence of cervical lymph node involvement in patients with prostate cancer has been reported as 0.4% or less; however, these patients usually have widespread metastatic disease [2]. Metastatic lesions, clinical factors, tumor location and ancillary immunohistochemical studies help the clinician and pathologist to determine the site of origin. More than 30% of men over age 50 will develop a malignant change in the prostate. Established risk factors include age, ethnicity and family history [5].

The most common spread of prostate cancer is via direct invasion to the pelvic organs or vertebral bodies. Lymphatic spread typically occurs in the regional lymph nodes, such as obturator – hypogastric or presacral nodes. Further spread occurs via iliac and para-aortic nodes to the cisterna chyli, and the thoracic duct, and then tumors gain direct entry into the systemic blood circulation via the left subclavian vein. Most metastases of cancers to the cervical lymph nodes are from primary cancers of the head and neck involving the mucosa of the upper aerodigestive tract, while others are from non-mucosal head and neck primary sites, such as salivary or thyroid glands [6]. Saeter et al. reported that the left supraclavicular fossa was the most common site of extra-skeletal non-regional lymphatic spread [7]. It may be postulated that tumor cells lodge in these nodes, which are close to the entry of the thoracic duct into the left subclavian vein, by retrograde spread [8]. Pan-endoscopy with random biopsies, and CT scans of head and neck and chest are advocated to search for the primary site. Fine-needle aspiration can determine the diagnosis. In our case, the evidence of malignancy was established on FNAC, and further biopsy with PSA stain revealed the prostatic origin.

Ogunyemi et al. reported 7 cases of prostate cancer with supraclavicular lymphadenopathy, with a mean Gleason score of 7.5. Bone involvement was evident in all the cases, and the mean survival after the diagnosis of head and neck metastasis was less than 4.5 years [5]. Cho and Epstein identified 26 patients with metastatic prostate cancer in the supraclavicular lymph nodes, 15 of which were in the supraclavicular nodes; 35% had no evidence of bony metastases, 42% had a normal digital rectal examination, 24% had normal serum acid phosphatase levels [9]. It is noteworthy that all patients may not have elevated biochemical markers for all prostate cancer, and hence an appropriate tissue diagnosis is essential.

Cervical lymph node metastasis in cases of prostate cancer should be treated as a systemic disease and the primarily

treated with androgen ablation [2]. Bilateral subscapular orchidectomy, followed by androgen blockade with bicalutamide (hormonal therapy) has been shown to be of benefit even in advanced stages of the disease. Chitale et al. report a similar case that received regular hormonal therapy and remained symptom-free for 9 years [6,10]. The role of radiation lies in the palliation of local symptoms relating to neural compression or venous obstruction [2]. Ahamed et al. reported a case of prostate cancer with metastatic supraclavicular lymphadenopathy, wherein the patient experienced a dramatic improvement in symptoms and a significant drop in PSA level from 586.0 ng/ml to 251.5 ng/ml within 7 months of treatment with cyproterone acetate and leuprorelin acetate [11].

CONCLUSIONS

Prostate cancer should be included in the differential diagnosis of generalized lymph node involvement in male patients with adenocarcinoma of undetermined origin, even in the absence of lower urinary tract symptoms. Immunohistochemistry with PSA staining can confirm the diagnosis. Hormonal therapy is effective, even in patients with an advanced stage of the disease.

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