

## Metastatic Prostate and renal cell carcinoma presenting as supra-clavicular lymphadenopathy: Report of two cases

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### ABSTRACT

Most metastases of cancers to cervical lymph nodes including supra-clavicular chain are from the head and neck primary tumors. Cancers metastasizing to the supra-clavicular lymph nodes from non-head and neck origin are rare. This occurs most frequently with lung, breast and esophagus. For prostate cancer, the non-regional lymph nodal involvement is very rarely reported. Similarly renal cell carcinoma presents mostly in advanced stage disease with involvement of non-regional lymph nodes is much less common. We present two cases of prostate and renal cell carcinoma who presented with initial manifestation of supraclavicular lymphadenopathy.

**KEY WORDS:** Metastatic cervical and supra-clavicular lymph nodes, Differential diagnosis, prostate cancer, Renal cell carcinoma.

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### INTRODUCTION

Prostate adenocarcinoma is the second most common cancer diagnosed in men worldwide and ranks 8<sup>th</sup> common cancer in Pakistani men.<sup>1</sup> It presents in various ways and the axial skeleton and regional pelvic lymph nodes are the most frequent sites of metastasis.<sup>2</sup> The non-regional lymph nodal involvement including supra-clavicular chain is very uncommon manifestation only few case reports have been published in the literature worldwide.<sup>3,4</sup> Similarly, in Pakistan, renal cell carcinoma (RCC) presents mostly in advanced stage disease with

frequency of metastasis to lungs, liver, bones and brain. Metastasis to cervical lymph nodes is very rare presentation.<sup>5</sup>

We report two cases of metastatic supra-clavicular lymph nodes which came out as metastatic prostate and renal cell carcinomas after investigations.

### Case Presentation 1:

Sixty eight years old male without a significant medical and surgical history presented in Oncology clinic with complaints of left lower neck swelling since last three months. He also complained of frequency of urine since last three months. Physical examination revealed an enlarged, hard left supra-clavicular lymph node of size 8x8 cm Fig.1a. No other lymphadenopathy or visceromegaly was observed. Digital rectal examination (DRE) showed large prostate with hard stony consistency.

Baseline investigation including full blood count, urea and electrolytes, liver function tests and chest X-ray were normal. Computed tomography (CT) neck, chest and abdomen showed left supra-clavicular, mediastinal, para-aortic and pelvic adenopathy and large prostate involving seminal vesicles Fig.1b.

A fine needle biopsy of left supra-clavicular lymph node revealed metastatic poorly

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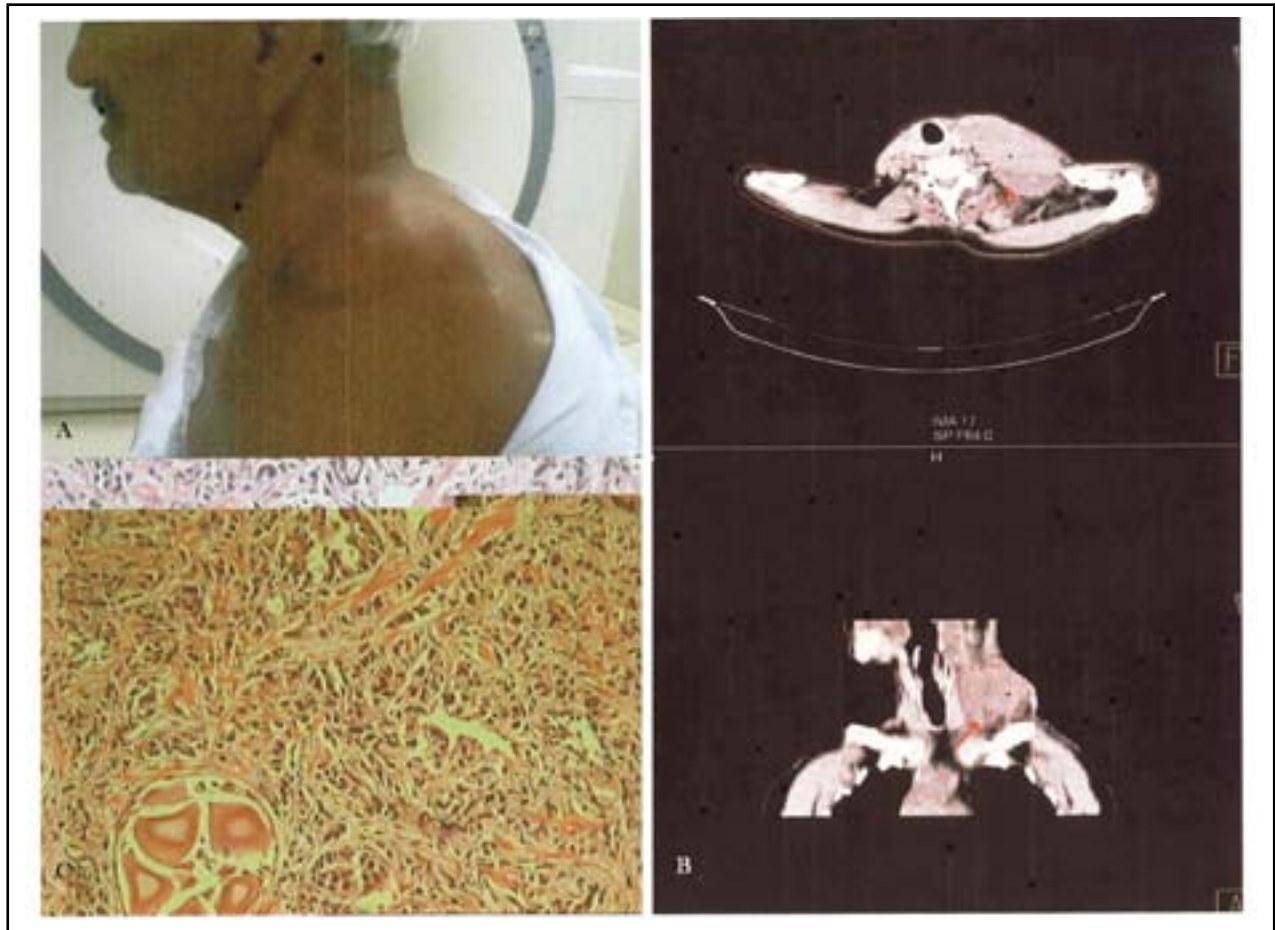


Fig.1: (a) Patient with left supra-clavicular mass of size 8 x 8 cm fixed and hard consistency.  
 (b) CT scan (red arrow) showed left supraclavicular node with extranodal extension.  
 (c) Histopathology shows poorly differentiated prostate cancer.

differentiated adenocarcinoma Fig.1c. Serum markers carcinoembryonic antigen (CEA), alpha fetoprotein (AFP) and beta human chorionic gonadotrophin were normal. Serum prostate specific antigen (PSA) was 90ng/ml. Patient underwent trans-rectal ultrasound guided biopsy of prostate which showed prostate adenocarcinoma (Gleason score 5+4=9). Bone scan was negative. He was staged as T3bN2M1a. Patient was started on androgen deprivation therapy {oral bicalutamide 50 mg for a week and monthly subcutaneous Leutinizing releasing hormone (LHRH) analogues}. The left supra-clavicular lymph node was irradiated for pain relief with 6MV photon radiation dose 3000 cGy in ten fractions over two weeks.

Six months later, the serum PSA returned within normal limits and Follow up CT scan showed regression of nodal disease. Patient is currently on regular follow-up.

### Case Presentation 2:

Sixty four year old man presented in oncology clinic with complaints of painful right lower neck swelling since last two months. He had one episode of gross hematuria one month back, otherwise no significant medical and surgical history.

On general physical examination, there was 6x6 cm huge cystic mass in right supraclavicular region Fig.2a. It was not erythematous but tender to touch. Per abdomen examination revealed diffuse mass in right lumbar region on deep palpation. Differential diagnosis was made lymphoma or renal cell carcinoma. For work up he was admitted in oncology ward.

Baseline investigation including full blood count, urea and electrolytes, liver function tests and chest X-ray were within normal limits. Computed tomography (CT) neck, chest and abdomen showed left supra-clavicular lymphadenopathy, pulmonary nodules and huge 11x10 cm right renal mass Fig.2b.

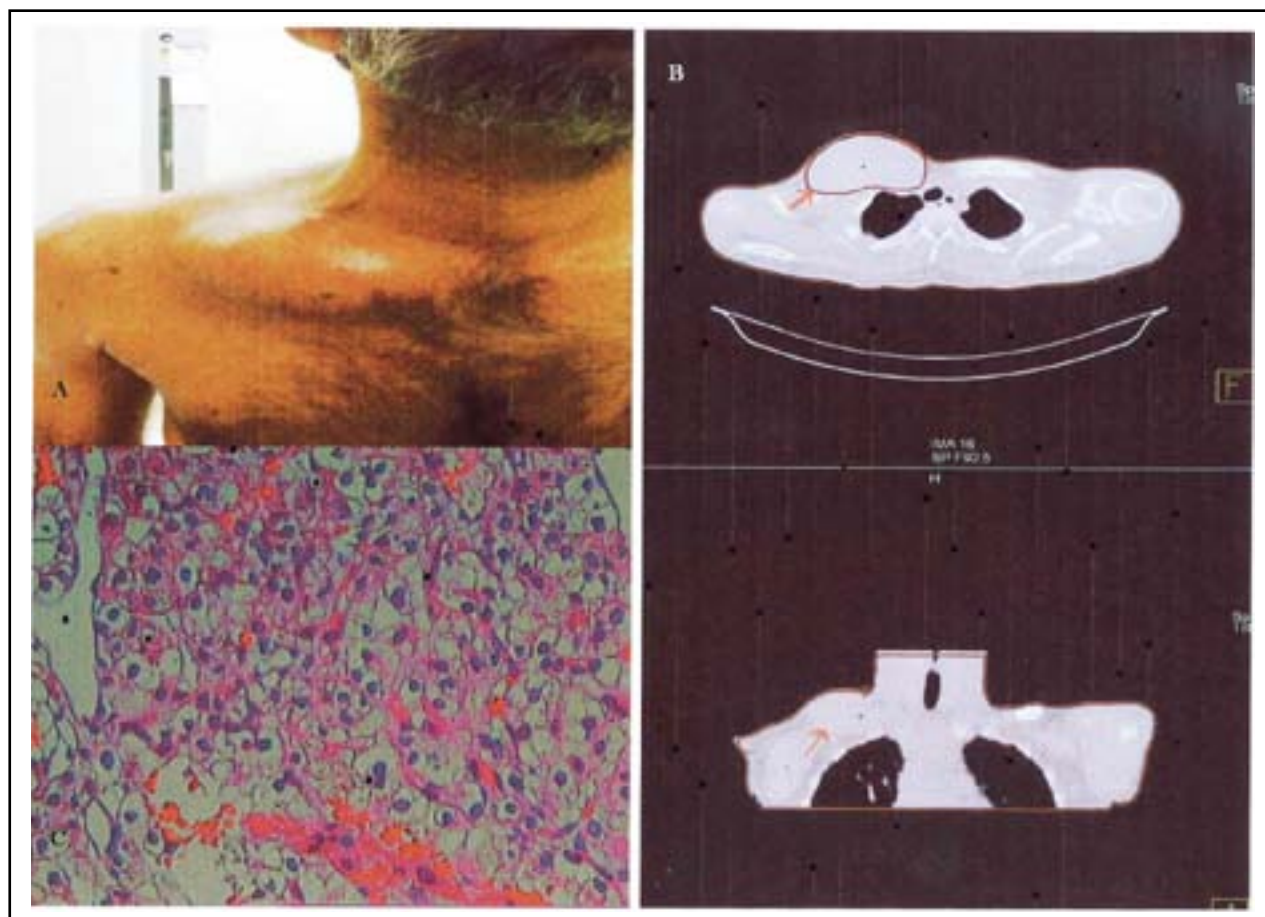


Fig.2: (a) Patient with right supra-clavicular mass of size 6 x 6 cm fixed but cystic consistency.  
 (b) CT scan (red arrow) showed right supraclavicular node with extranodal extension invading to clavicle bone.  
 (c) Histopathology shows clear cell carcinoma consisting with renal origin.

A fine needle biopsy of right supra-clavicular node revealed metastatic clear cell carcinoma of renal origin Fig.2c. The right supra-clavicular lymph node was irradiated for pain relief with 6MV photon radiation dose 3000 cGy in ten fractions over two weeks. After one month palliative nephrectomy was done and he started on oral sunitinib 50 mg daily. Currently patient is on periodic follow up and CT showed remarkable regression of right supraclavicular node.

## DISCUSSION

Metastatic prostate cancer typically spreads to axial skeleton, lung, liver, epidural spaces and regional lymph nodes; the non-regional nodal spread is very rare. The cervical and supra-clavicular lymph node involvement has been reported in 0.4% to 1% of all metastatic prostate cancer.<sup>6</sup> The possible pathway of this spread, which was explained by Heresi GA, et al<sup>7</sup> is as;

1. Prostate cancer cells drain first into obturator nodes and internal iliac chain, followed by.
2. External iliac nodes and pre-sacral nodes, followed by.
3. Common iliac nodes and para-aortic nodes, followed by.
4. Thoracic duct, from there to systemic circulation by subclavian vein.

However this pattern of spread is not obligatory and non-contiguous or retrograde dissemination is also possible. Constancy of node in our patient was hard and fixed mass.

Renal cell carcinoma (RCC) has been well described for its tendency to metastasize, occurring in approximately one third of patients at the time of diagnosis. It spreads to bones, brain, lung and regional lymph nodes. Non-regional involvement is also rarest manifestation in RCC.<sup>8</sup> The apparent pathway of spread to supra-clavicular node is similar to prostate cancer; however hematogenous spread is also most likely.<sup>9</sup> In our patient the consistency

of node was cystic but fixed as mentioned in other reports. Both patients were alive at last follow-up.

### CONCLUSION

In differential diagnosis of metastatic cervical nodes apart from primary head and neck cancers, prostate and renal cell cancers must also be kept in mind by clinicians. We emphasize that per abdomen examination, digital rectal examination (DRE) and serum PSA should be performed to rule out primary of unknown origin in case of persistent supra-clavicular lymphadenopathy. Prompt diagnosis and treatment may affect outcome.

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