

Cutaneous Nodules and Isolated Inguinal Lymphadenopathy in a Patient with Advanced Cancer of the Prostate

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Authors' contributions

This work was carried out in collaboration among all authors. Author SS designed the study, performed the statistical analysis and the literature searches, wrote the protocol and wrote the first draft of the manuscript. Authors SB, RKD, AS and AB did the data curation and author KG managed the conceptualization, did the writing-review and editing of the manuscript. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Aim: As cutaneous metastasis of prostate cancer is very rare and there are very few documented cases in the literature, we want to present this case report.

Presentation of Case: A 62 years old patient presented to the outpatient department with complaints of continuous dribbling of urine and overflow incontinence with occasional painless gross haematuria for one month. He gave a history of enlarged inguinal lymph nodes. Investigations including blood biochemistry, urine analysis, ultrasonography and CECT abdomen were done followed by cystourethroscopy. Diagnostic biopsy from the left lateral wall of the bladder and a formal transurethral resection of the prostate was done and the specimen was sent for histopathological study.

Discussion: Prostate cancer, among other urological malignancy, is the third most common cause of skin metastasis. Cutaneous metastasis in prostatic cancer is rare and occurs in 0.09% of prostate adenocarcinoma. This increases with a relative increase in the elderly population and refractory or end-stage prostate cancer.

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Conclusion: Cutaneous metastasis in prostate cancer carries a grave prognosis as in many other malignancies. Survival is generally between 6 weeks and 9 months. It is necessary for both the urologist as well as primary care physicians to be vigilant about these atypical observations in their daily practice.

Keywords: Adenocarcinoma; cutaneous; cystourethroscopy; haematuria; malignancy; metastasis.

1. INTRODUCTION

Prostatic cancer (Pca) is the second most commonly diagnosed cancer in men, with an estimated 1.1 million diagnoses worldwide in 2012, accounting for 15% of all cancers diagnosed [1]. A systemic review of autopsy studies reported the prevalence of Pca at age < 30 years of 5%, which increases by an odds ratio of 1.7 every decade, to the prevalence of 59% by age >79 years [2]. It is indolent cancer, so demands individualized treatment. Incidence is low in Eastern and South-central Asia and the mortality is higher in the population of African descent. Skin metastasis is extremely rare.

2. PRESENTATION OF CASE

A 62 years old patient, farmer by occupation, presented to the outpatient department with complaints of continuous dribbling of urine and overflow incontinence with occasional painless gross haematuria for one month. He also complained of generalized body ache and nodules in the groin. He gave a surgical history of having undergone a wedge biopsy from

multiple growths over the inguinal region whose histopathological features were suggestive of malignant adnexal neoplasm with sebaceous differentiation. He smoked more than 20 packs/years for the last 40 years. No history of any chronic illness or surgical history in the past.

On examination, his general condition was poor. He was dehydrated and pale. Vitals were stable. The left lower limb was swollen with pitting edema along with penile and scrotal oedema. There were multiple violaceous, firm nodules with secondary infection over the left inguinal region, left upper thigh (anterior and medial aspect) and pubic region. An approximately 5 x 5 cm fixed inguinal lymph node was palpable. Suprapubic fullness was present. The rest of the abdominal examination and other systemic examinations were normal. Digital rectal examination revealed a grade II enlarged prostate which was firm and non-tender. No hard nodules were detected. The median sulcus could be palpated. Rectal mucosa was normal and there was no blood staining of the examining finger. The anal tone was normal and the bulbocavernosus reflex was normal. The patient was catheterized.



Fig. 1. Multiple violaceous cutaneous nodular lesions over the left inguinal and pubic region

Serum chemistry revealed anemia (8g/dl) and leucocytosis (raised neutrophils). Alkaline phosphatase was elevated. Serum PSA was 8 ng/dl. Serum Creatinine was normal. Electrolytes, blood glucose level and coagulation profile were normal. Urine analysis showed pyuria and 8-10 RBCs/HPF. Urine culture showed no growth. Ultrasonography of the whole abdomen suggested a space-occupying lesion (SOL) in the anterior and left lateral wall of the bladder with grade II prostatomegaly. Contrast-enhanced computed tomography of the whole abdomen and pelvis showed irregular bladder wall thickening in the left lateral and anterior wall of the bladder. It also showed multiple enlarged, heterogeneous left inguinal and femoral groups of lymph nodes with multiple cutaneous as well as subcutaneous growths over the left inguinal region and upper thigh. No upper tract changes were present.

After pre-operative optimization, the patient was taken up for cystourethroscopy. The prostatic urethra was unhealthy. No definite bladder SOL was seen. There were obstructive changes in the bladder, possibly due to prostatomegaly. The

patient underwent a diagnostic biopsy from the left lateral wall of the bladder and a formal transurethral resection of the prostate. Separate excisional biopsy of the subcutaneous nodule was undertaken with normal surrounding skin from the pubic region and medial aspect of the left thigh. The post-operative period of the patient was uneventful.

The histopathological report read:

1. **Specimen of TURP chips:** Suggestive of acinar adenocarcinoma of the prostate, Gleason score 4+5, Gleason group grade 5, lymphovascular invasion present, perineural invasion absent.
2. **Specimen of urinary bladder tissue:** Metastatic deposit from prostatic adenocarcinoma.
3. **Specimen of excisional biopsy of a subcutaneous nodule in the left inguinal region:** Metastatic deposit from prostatic adenocarcinoma with immunohistochemistry showing PSA and prostatic acid phosphatase (PSAP) expression.

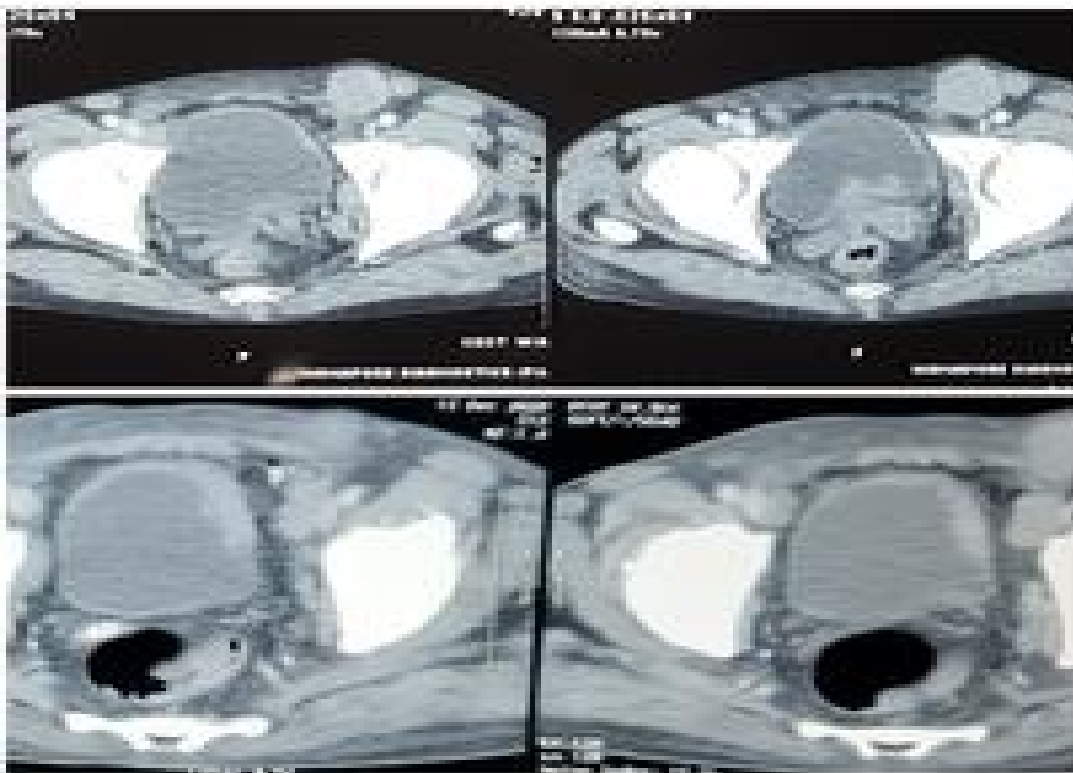


Fig. 2. CT scan showing irregular bladder wall thickening in the anterior and left lateral bladder wall with multiple inguinal and femoral lymphadenopathy

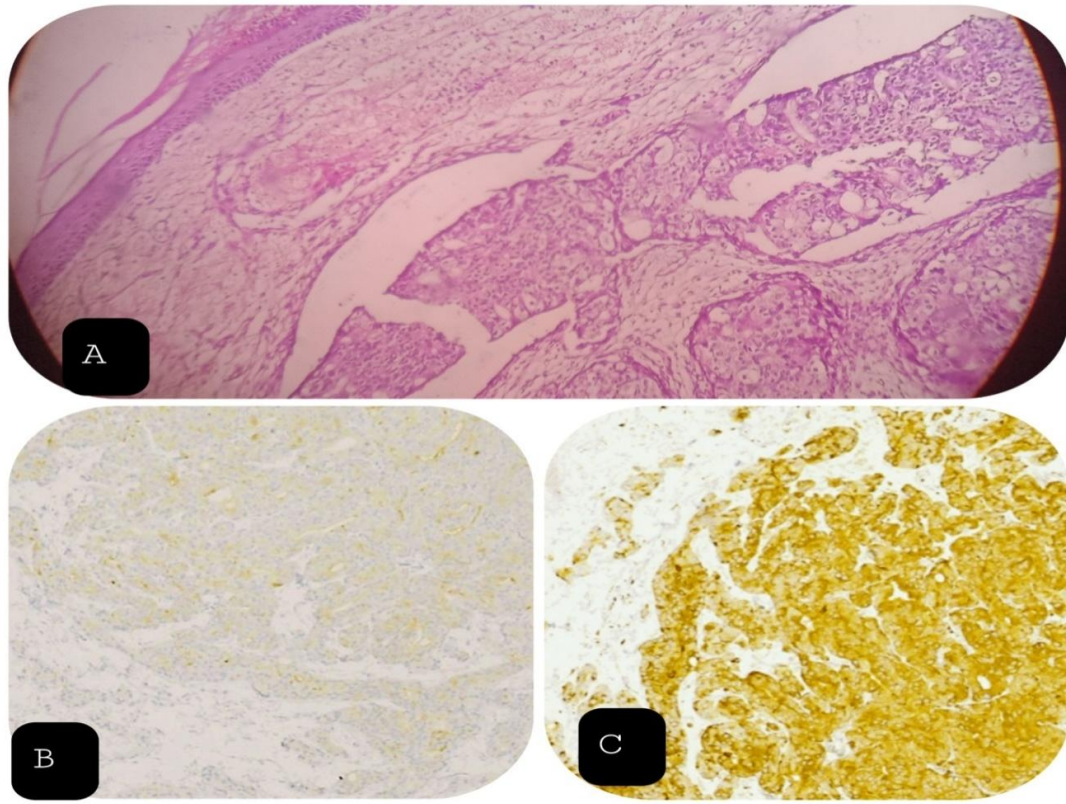


Fig. 3. (A) Histopathology slide from the skin lesion showing metastatic deposit of prostatic adenocarcinoma. Immunohistochemical examination of inguinal skin nodule. Prostate-specific antigen (B) and prostate-specific acid phosphatase (C) x10

A whole body bone scan also suggested multiple skeletal metastases. The patient and his attendants were explained the prognosis and also the need for medical/surgical castration. Injectable LHRH agonist/antagonist was beyond their financial affordability, so they opted for bilateral orchiectomy with non-steroidal anti-androgen Bicalutamide 50 mg once daily.

He was discharged from the hospital 24 hours after surgery. He returned 1 week later with severe respiratory distress and was immediately admitted to the intensive care unit. He was diagnosed as Covid-19 positive and had the severe acute respiratory syndrome. He succumbed later the same day.

The study was conducted as per the guidelines laid down by the declaration of Helsinki.

3. DISCUSSION

Prostate cancer, among other urological malignancy, is the third most common cause of

skin metastasis. Cutaneous metastasis in prostatic cancer is rare with approximately a hundred cases reported in the literature. Skin metastasis occurs in 0.09% of prostate adenocarcinoma. This increases with a relative increase in the elderly population and refractory or end-stage prostate cancer.

Our patient had violaceous nodules with ulceration in the left inguinal and pubic region with fixed inguinal and femoral groups of lymph nodes. These lesions are more common in prostatic cancer metastasis [3,4,5]. These lesions might present as telangiectatic, vesicular and plaque-type lesions in the head, neck, forehead, axilla as well as upper chest [6,7,8,9]. Sexually transmitted diseases should be excluded. A detailed history is essential as cutaneous metastasis can present several years after the initial diagnosis of prostate cancer [3,4,10].

It is difficult to rule out poorly differentiated adenocarcinoma or primary skin appendages

tumour, as what happened in our cases with the initial biopsy reporting malignant adnexal neoplasm but showed diffuse staining with PSA and PSAP in immunohistochemistry.

All these findings concluded the diagnosis of cutaneous metastases of prostate adenocarcinoma for our case. Particularly, immunohistochemistry staining is very valuable for such patients. Some cutaneous metastasis may fail to express PSA staining.

4. CONCLUSION

Cutaneous metastasis in prostate cancer carries a grave prognosis as in many other malignancies. Survival is generally between 6 weeks and 9 months [4,6,11]. It is necessary for both the urologist as well as primary care physicians to be vigilant about these atypical observations in their daily practice.

CONSENT

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

ETHICAL APPROVAL

The study was conducted as per the guidelines laid down by the declaration of Helsinki.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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