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Prostate Cancer

Case report

An unusual presentation of advanced prostate cancer in a 56-year old Nigerian



P.O. Areo^{a,1,*}, A.E. Omonisi^{b,1}, P.T. Adegun^{a,1}, J.A. Omotayo^{b,1},
S.A. Dada^{c,1}, J.O. Esho^{a,1}, T.V. Asowo^{a,1}

^a Department of Surgery, Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria

^b Department of Anatomic Pathology, Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria

^c Department of Medicine, Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria

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Abstract

Introduction: Advanced prostate cancer usually presents with lower urinary tract symptoms associated with features of malignancy on digital rectal examination. The bones, the liver, and the lungs are the common sites of metastasis for advanced prostate cancer.

Observation: We report an atypical case of a 56-year old Nigerian male who had bowel obstruction, multiple peripheral and intra-abdominal lymphadenopathies. The patient had a normal initial urological evaluation but his diagnostic conundrum was resolved to be prostate cancer by immuno-histochemistry of the cervical lymph node biopsy and he did well after antiandrogen monotherapy.

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* Corresponding author.

E-mail addresses: areolafemoris@yahoo.co.uk, peterareo@yahoo.com (P.O. Areo), abidemi.omonisi@gmail.com (A.E. Omonisi), patrickikelomo@yahoo.com (P.T. Adegun), tunjiomotayo@yahoo.co.uk (J.A. Omotayo), ayokunledada@yahoo.com (S.A. Dada), olusanmiesho@yahoo.com (J.O. Esho), asowotope@gmail.com (T.V. Asowo).

¹ All the authors contributed equally in the conception, preparation, revision and approval of the manuscript.

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Introduction

Adenocarcinoma of the prostate gland is the commonest cancer in men occurring mostly in the seventh decade of life [1]. It presents with lower urinary tracts symptoms like Benign Prostatic Hyperplasia (BPH) but it is usually associated with elevated serum Prostate Specific Antigen (PSA) and malignant features on Digital Rectal Examination (DRE). Advanced prostate cancer metastasizes to the bones, liver and lungs [2]. Some atypical presentations have been published [3]. We report a case of a 56-year-old man with symptoms of intestinal obstruction, intra-abdominal masses and multiple

lymphadenopathy suggestive of lymphoma which turned out to be prostatic adenocarcinoma.

Case report

A 56-year old man presented to the emergency department with constipation of three months and abdominal pain of two weeks duration. Abdominal pain was colicky in nature, suprapubic in location and of insidious onset with no known precipitating, aggravating or relieving factors. Preceding history of constipation was typified mainly by infrequent passage of hard pellet-like stools. There was no vomiting, hematochezia or melena. There was however, history of significant weight loss. The patient did not have yellowness of the eye, cough, fever or drenching night sweat. There was no preceding abdominal trauma or surgery and he had no urinary symptoms.

Examination revealed an ill looking middle-aged man who had marked wasting and generalized lymphadenopathy involving the cervical, left supraclavicular, axillary and inguinal lymph nodes. The abdomen was moderately distended with multiple firm masses in the iliac fossae, suprapubic and left lumbar regions. The liver and spleen were not palpably enlarged and bowel sounds were hyperactive. Digital rectal examination revealed a firm mass bulging into the rectum on vasalva manoeuvre, the prostate was mildly enlarged with no malignant features. Other systems were essentially normal on physical examination.

An initial diagnosis of partial large bowel obstruction secondary to colorectal carcinoma to rule out lymphoma was made. The patient was initially put on NPO and parenteral nutrition for abdominal

decompression while awaiting further investigations. Retroviral screening was non-reactive, full blood count and serum biochemistry were within normal limits apart from elevated urea which normalized after rehydration.

Abdominal Ultrasound Scan (USS) showed multiple masses in both iliac fossae and the pelvis, with difficulty in delineating the colon separately. The liver, the spleen and the kidneys were normal and no ascites was seen on USS. The double contrast barium enema done revealed no colonic tumour. Abdominal CT scan showed multiple para-aortic and para-iliac isodense lesions splaying the iliac and renal arteries (Fig. 1) and similar lesions were also seen within the mesentery. The CT scan also showed no ascites, mild hepatomegaly while bowel loops and other abdominal structures were unremarkable. The prostate was mildly enlarged with grossly normal urinary bladder. Multiple hilar and prevascular lymphadenopathies were seen on chest CT and sclerotic lesions were observed in L2–L5 vertebrae. The impression of the radiologist was Lymphoma with spinal metastasis.

The patient had an initial urological evaluation which did not consider prostate cancer as a result of absence of lower urinary tract symptoms in addition to normal features of the prostate gland on both DRE and CT scan. Urethrocystoscopy revealed closely apposed lateral lobes of the prostate and a normal urinary bladder.

A supraclavicular lymph node biopsy was subsequently done and histopathology returned as metastatic adenocarcinoma with unknown primary as shown in Fig. 2. This necessitated immunohistochemistry to discover the primary site. The following immuno-histochemical stains were used; Thyroid Transcription

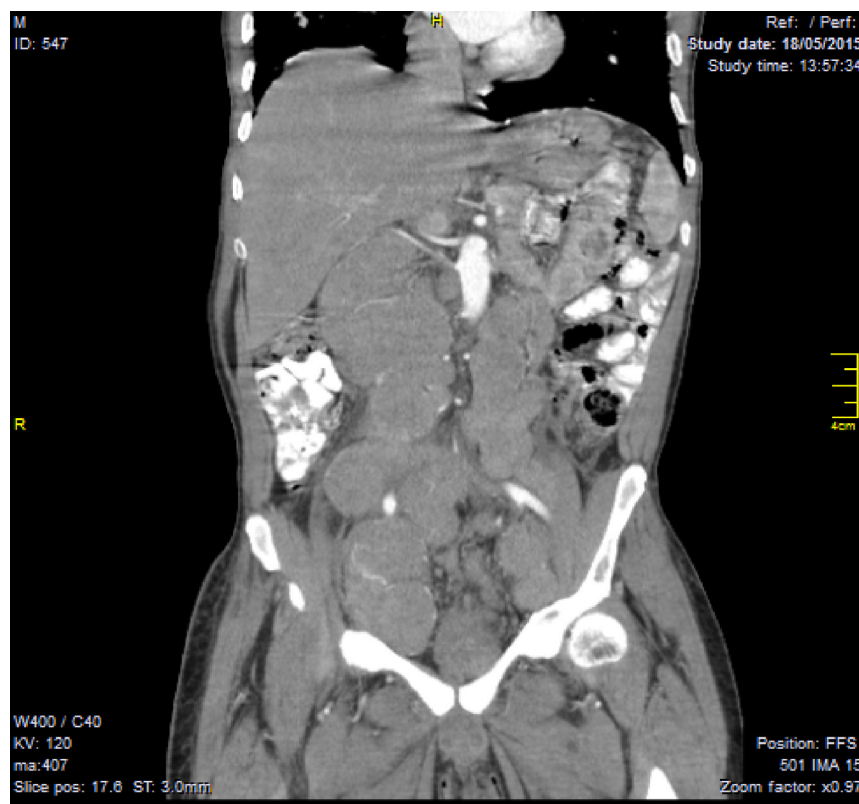


Figure 1 Abdominal CT showing multiple para-aortic and para-iliac isodense lesions splaying the iliac vessels.

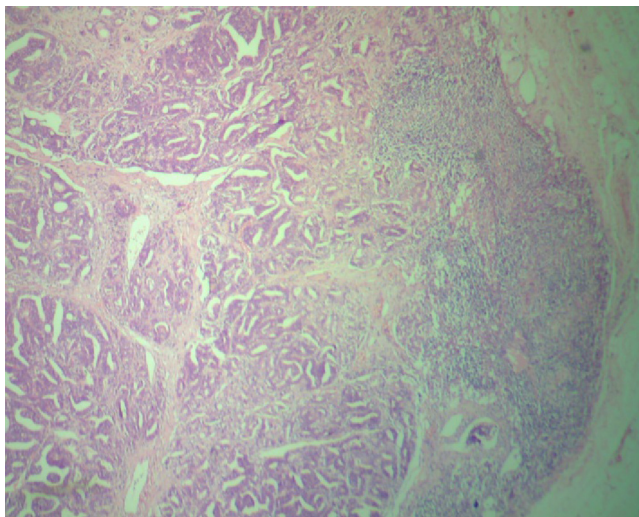


Figure 2 Photomicrograph of a section of the supraclavicular lymph node with metastatic adenocarcinoma and remnant of the nodal tissue abutting the capsule (H&E), magnification $\times 4$.

Factor (TTF-1) which stained negative, Prostate Specific Antigen (PSA) immunostain stained slightly positive as shown in Fig. 3a and b, Cytokeratins CK-7 and CK-20 both of which stained negative, while Prostate Specific Acid Phosphatase (PSAP) immunostain stained markedly positive as shown in Fig. 4a and b.

Further careful urological evaluation and investigation showed a markedly elevated serum PSA (114.4 ng/ml). The histopathologic examination of the subsequent transrectal prostate biopsy confirmed high grade adenocarcinoma of the prostate (Gleason score $5 + 4 = 9$)

The patient declined bilateral orchidectomy for personal and cultural reasons but was immediately commenced on oral antiandrogen monotherapy (Flutamide) with dramatic improvement after two weeks of treatment. The abdominal, cervical and inguinal masses had regressed significantly, and the symptoms of partial intestinal obstruction had also completely resolved on follow-up assessment two months after. The patient felt satisfied with the progress he had made nine months afterward. The serum PSA requested 11 months after initiation of flutamide was 12.7 ng/ml.

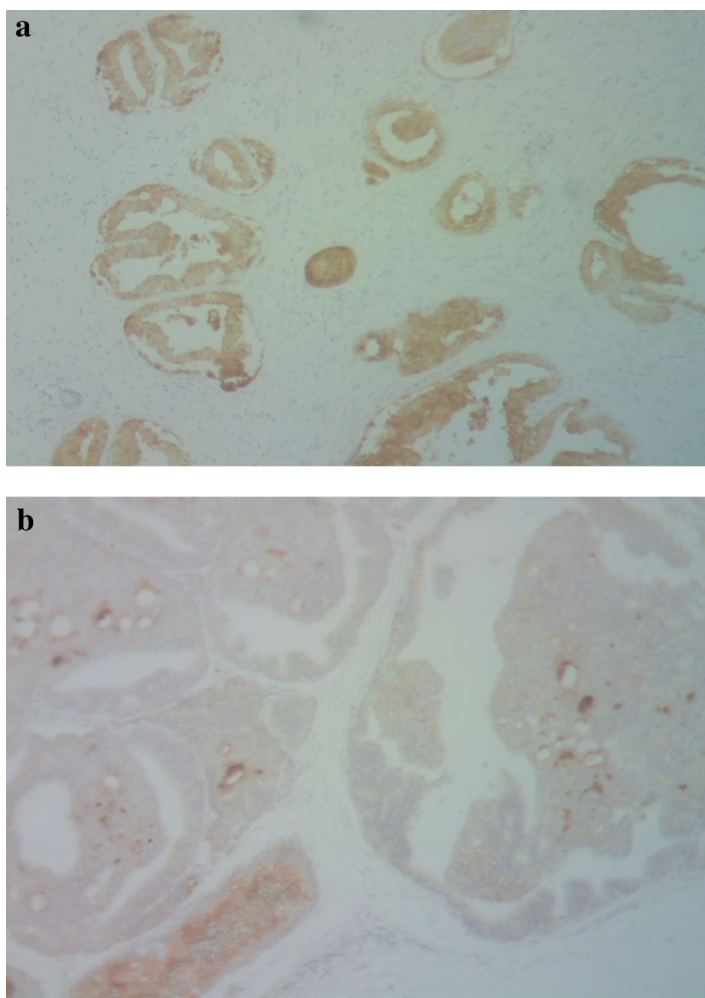


Figure 3 (a) Photomicrograph showing PSA positive immunostain (Control), magnification $\times 10$. (b) Photomicrograph showing focal positivity of PSA immunostain from the supraclavicular lymph node biopsy, magnification $\times 10$.

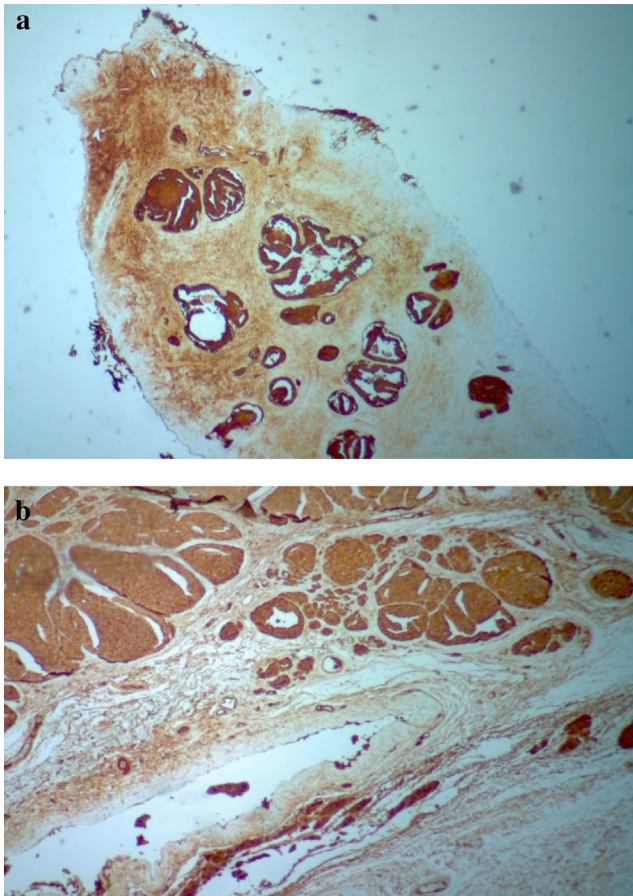


Figure 4 (a) Photomicrograph showing PSAP positive immunostain (Control), magnification $\times 10$. (b) Photomicrograph showing strong positivity of PSAP immunostain from the supraclavicular lymph node biopsy, magnification $\times 40$.

Discussion

Some atypical presentations of prostate cancer which have been published include supraclavicular lymphadenopathy, severe obstructive constipation, non-regional lymph node and soft tissue metastases [3]. Cutaneous, gastric, colonic, omental and peritoneal metastases with or without malignant ascites have also been reported [4–7]. These can occur independently of bony metastasis and response rate to treatment is said to be similar to those with bony metastasis only.

Our patient presented with partial intestinal obstruction, he had lower abdominal masses and generalized lymphadenopathy including a left supraclavicular node enlargement. An intra-abdominal malignancy and lymphoma were top of initial differential diagnoses. The initial urological evaluation revealed no urinary symptoms, a normal prostate on digital rectal examination and a cystoscopy confirmed the pelvic mass to be extra-vesical. This, in addition to the relatively young age of the patient, was not in consonance with the prostate being the primary source. However, a serum PSA should have been done ab initio in spite of a near normal physical and endoscopic urological evaluation. A normal DRE does not rule out prostate cancer because cancer, though rare, developing from the transitional zone of the gland may not be palpable. In a study by



Figure 5 Photomicrograph of a core needle biopsy of the prostate gland showing effaced cellular architecture and malignant epithelial cells with pleomorphic and hyperchromatic nuclei. H&E magnification $\times 10$. Microscope specification: Olympus Bright Field, Binocular Microscope CX22 LED (Japan) Model NLCD-307, No 000243.

Thompson and Zeidman, many patients who succumbed to prostate cancer had a normal DRE at the time of diagnosis [8].

Abdominal CT (Fig. 1) revealed multiple para-aortic lymph nodes and multiple pelvic masses of indeterminate origin. This, in conjunction with general peripheral lymphadenopathy, was in keeping with lymphoma. The excisional biopsy of the supraclavicular lymph node (Fig. 2) to confirm this revealed an adenocarcinoma of unknown origin. Immunohistochemistry showed that the tumour cells were negative for TTF-1 and also consistently negative for the cytokeratins (CK-7 & CK-20), focally positive for PSA immunostain (Fig. 3a and b) but strongly positive for PSAP immunostain (Fig. 4a and b). The implication of these immunostaining patterns was that epithelial malignant tumour from the lungs and both upper and lower gastrointestinal tracts had been excluded as possible primary sites. The immunohistochemical features of the focal positivity for PSA and strong immunostaining of the tumour for PSAP confirmed prostate gland as the primary site. Immunohistochemistry can play an important role in diagnostic surgical pathology of the prostate. PSA and PSAP immunohistochemical stains are valuable in confirming metastatic carcinoma as being of prostatic origin and should always be utilized in the diagnostic evaluation of metastatic adenocarcinoma of unknown primary origin in males [9]. Immunohistochemistry which was positive for prostate cancer necessitated a repeat urologic evaluation with a serum PSA assay and subsequent transrectal prostate biopsy confirming a high grade adenocarcinoma of the prostate (Fig. 5) which responded well to antiandrogen. Requesting for PSA in the initial assessment could have obviated a long diagnostic work-up but prostate cancer could be an incidental finding in the presence of a lymphoma hence the need for lymph node biopsy and histochemistry. The histopathological examination of the cervical lymph node and the disappearance of the generalized

lymphadenopathy following antiandrogen monotherapy ruled out the presence of a synchronous lymphoma.

In conclusion, prostate cancer can present in atypical and bizarre ways. It is important to consider prostate cancer in middle-aged men presenting with supraclavicular lymphadenopathy even in the presence of an apparent intra-abdominal focus. Serum PSA assay should always be requested even in the absence of urinary symptoms and/or presence of an apparently normal prostate on DRE. This study also re-emphasizes the importance of collaboration among clinicians and pathologists in clinical cases with diagnostic conundrum.

Ethical committee approval

Research and Ethics Committee, Ekiti State University Teaching Hospital, Nigeria. Protocol no. EKSUTH/A67/2016/05/002.

Conflict of interest

None.

Source of funding

Nil.

Consent from the patient

Consent for anonymous use of the patient's data sought.

Authors contributions

P.O. Areo: wrote the manuscript and did the literature search.

A.E. Omonisi: handled histopathologic diagnosis and the photomicrographs.

P.T. Adegun: contributed to manuscript write-up and proof-reading.

J.A. Omotayo: handled histopathologic diagnosis and addition of photomicrographs.

S.A. Dada: contributed to manuscript write-up and literature search.

J.O. Esho: proof-read and approved final version of the manuscript.

T.V. Asowo: contributed to the literature search.

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