

CASE REPORT

Neck mass: An unusual presentation of prostate cancer metastasis

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Globally, prostate cancer is a disease of public health importance and it is most common among men between 60 to 70 years of age. Distant primaries involving supraclavicular nodes secondary to prostate cancer is very rare. This report is a case of an unusual presentation of prostate cancer manifesting as a huge neck mass in a 61-year-old man from Kumasi, Ghana, who had complete regression of the mass after androgen deprivation therapy. Carcinoma of the prostate should be considered among the differential diagnoses in any elderly male presenting with a neck mass.

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INTRODUCTION

Globally, prostate cancer is a disease of public health importance (Haas *et al.*, 2008) and it is most common among men between 60 to 70 years of age (Elabbady and Kotb, 2013). It is the second most common cause of cancer related mortality in men in the United States (Cetin *et al.*, 2011) and the most common urologic malignancy in Ghana (Klufio, 2004).

The commonest site of metastasis of Prostate cancer is bone (90%) with lung, liver, pleura, and adrenal metastasis occurring in that order (Bubendorf *et al.*, 2000). Non regional lymphatic metastasis is rare (Cetin *et al.*, 2011), especially supraclavicular lymphadenopathy (Elabbady and Kotb, 2013) which has been reported to be around 0.4% in the literature (Flocks and Boatman, 1973; Saitoh *et al.*, 1984). In West Africa, Agbugui *et al.*, from Nigeria, reported on two cases of advanced prostate cancer that presented initially with left supraclavicular masses (Agbugui *et al.*, 2014). However, there has been no report of prostate cancer presenting as a neck mass from Ghana.

CASE PRESENTATION

A 61-year-old man first presented to a general surgeon with six months history of painless and persistent multiple neck masses, more marked on the left supraclavicular region (Figure 1). He had no difficulty with swallowing or breathing and no significant urinary symptoms. There was no history suggestive of pulmonary tuberculosis.

Physical examination revealed multiple palpable, firm and non-tender neck masses. Examination of other systems was unremarkable. Ultrasonography of the neck revealed multiple enlarged lymph nodes on both sides of the neck with the largest measuring 4 cm in the longest diameter. The thyroid and submandibular glands were considered normal. A provisional diagnosis of extra pulmonary tuberculosis with a differential of lymphoma was made. An incisional biopsy histological report revealed metastatic mucoepidermoid carcinoma of the salivary gland.

The general surgeon subsequently referred the patient to the maxillo-facial surgeon, whose evaluation of the oral and salivary glands was unremarkable. A repeat incisional biopsy of the neck mass by the maxillo-facial surgeon however showed a poorly differentiated adenocarcinoma of unknown primary site. Further assessment of the patient by the

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maxillo-facial surgeon revealed he had mild lower urinary tract symptoms (LUTS). The patient was therefore referred to the urologist for further evaluation and management.

At the urology clinic, the patient was found to have an International Prostate Symptom Score of 6 and maximum urine flow rate (Q_{max}) of 14 mls/sec with no bone pains or chest complaints.



Figure 1: The patient with neck mass (Arrowed) at his first visit to the urology clinic

Digital rectal examination detected a hard irregular prostate (clinically T3). The serum Prostate specific antigen (PSA) level was 25ng/ml. A trans-rectal ultrasound (TRUS) guided prostate biopsy confirmed the diagnosis of prostate adenocarcinoma, Gleason score 3+3 = 6. A Computed Tomography scan done showed no abdominal or pelvic lymphadenopathy and bone scintigraphy done showed no metastasis. The serum alkaline phosphatase level was normal.

A diagnosis of advanced prostate carcinoma with supraclavicular lymph node involvement was made. The patient opted for surgical castration after he was counseled on Androgen Deprivation Therapy (ADT). There was complete regression of the neck masses six weeks after surgery (Figure 2) with PSA dropping to 2.4 ng/ml.



Figure 2: Complete regression of neck mass 6 weeks after castration

DISCUSSION

Pelvic lymph nodes are often involved in metastatic prostate cancer, with hypogastric and obturator lymph nodes being the commonest (Saitoh *et al.*, 1990). There is progressive spread from the pelvic lymph nodes to the para-aortic nodes, cisterna chyli, the thoracic duct, the left subclavian vein, and finally to the systemic circulation (Cady, 1984). Supradiaphragmatic extension of prostate cancer occurs haematogenously via the Batson's plexus of veins by direct spread from the primary prostate cancer (Batson, 1940). Only about 0.4% of patients with advanced prostate cancer present with cervical lymph node metastasis (Saitoh *et al.*, 1984).

Almost all available literature reported an association of prostate cancer with the left supraclavicular lymph node, as a single metastasis or as a part of generalised lymphadenopathy (Woo *et al.*, 2001; Platania *et al.*, 2007; Elabbady and Kotb, 2013; Agbugui *et al.*, 2014). In this case, the patient had multiple lymph nodes on both sides of the neck as the presenting complaint.

The patient was wrongfully diagnosed as a case of mucoepidermoid carcinoma of the salivary glands by the pathologist after the first incision biopsy. The diagnosis of an undifferentiated adenocarcinoma of unknown origin was made after a repeat incisional biopsy by the maxillo-facial surgeon. In a similar case reported by Platania *et al.* (2007), PSA immunohistochemical staining was required to confirm the diagnosis of adenocarcinoma of the prostate. The diagnosis of prostate carcinoma in this patient had to be confirmed by TRUS biopsy of the prostate due to the unavailability of PSA immunohistochemical staining. This highlights the diagnostic challenges in our setting.

The treatment of metastatic prostate cancer is androgen deprivation therapy which can be either medical or surgical. The patient opted for surgical castration and had complete regression of his neck mass after six weeks (Figure 2). The response and survival of prostate cancer patients to androgen deprivation therapy is independent of the site of metastasis as observed by Saeter *et al.* (1984).

CONCLUSION

Carcinoma of the prostate should be considered among the differential diagnoses in any elderly male presenting with supraclavicular lymphadenopathy.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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