CASE REPORT

Prostatic adenocarcinoma presenting as isolated inguinal lymphadenopathy

Kanakaiah Doreswamy,¹ Vilvopathy Senguttuvan Karthikeyan,²
Mahadevappa Nagabhushana,¹ Bharatnur Shankaranand³

¹Department of Urology,
Institute of Nephro Urology,
Bangalore, Karnataka, India

²Department of Urology,
Institute of Nephro Urology,
Pondicherry, India

³Department of Pathology,
Kidwai Memorial Institute of
Oncology, Bangalore,
Karnataka, India

Correspondence to

Dr Vilvopathy Senguttuvan
Karthikeyan,
sengkarthik@yahoo.co.in

Accepted 16 June 2015

SUMMARY

Prostatic adenocarcinoma (CaP) is the most common cancer in males and approximately 50% of patients have metastases at presentation, most commonly spreading to the bones and regional lymph nodes. CaP metastasising to inguinal lymph nodes in the absence of pelvic lymphadenopathy or other metastases is very uncommon. A 66-year-old man presented with isolated left inguinal lymphadenopathy of 3 months duration and a history of lower urinary tract symptoms for 1 year. He had prostatic cancer extending into the bladder base and seminal vesicles on contrast-enhanced CT of the pelvis, and asymptomatic vertebral secondaries on skeletal scintigraphy. Transrectal ultrasound biopsy revealed adenocarcinoma (Gleason score 3+4=7), and inguinal lymph node biopsy showed metastatic adenocarcinoma positive for prostate-specific antigen (PSA). As inguinal lymphadenopathy may also be due to other causes, biopsy is useful and meticulous clinical examination is a must in these patients.

BACKGROUND

Prostatic adenocarcinoma (CaP) is the most common cancer in males. It is the second leading cause of cancer death.^{1 2} Approximately 50% of patients have metastases at presentation, most commonly spreading to the bones and regional lymph nodes.² CaP metastasising to inguinal lymph nodes in the absence of pelvic lymphadenopathy or other metastases is very uncommon. Inguinal lymphadenopathy may also be due to metastatic disease, lymphoma, or leukaemia, where biopsy is diagnostic.² We report a case of CaP presenting as inguinal lymphadenopathy.

CASE PRESENTATION

A 66-year-old man presented with a painless swelling in the left groin for the past 3 months. He gave a history of frequency of micturition hourly during the day and 6–7 times at night, with dysuria and weak urinary stream for the past 1 year, for which he had not sought treatment. He had no fever, haematuria, bone pain, backache or lower limb weakness. He was a known hypertensive and diabetic on regular treatment. Clinical examination was positive for hard nodular grade II prostatomegaly and a single discrete hard fixed 3×2 cm left inguinal lymph node.

INVESTIGATIONS

The patient's renal function was normal. His serum PSA was >50 µg/L. Contrast-enhanced CT (CECT)

Figure 1 Contrast-enhanced CT of the abdomen showing heterogeneously enhancing enlarged prostate (70 cc) with irregular borders and calcific foci, with loss of fat plane and bladder and seminal vesicles without pelvic lymphadenopathy.

showed an enlarged heterogeneous prostate (70 cc), with irregular borders and calcific foci, and showing heterogeneous enhancement, with loss of fat plane with bladder and seminal vesicles, and multiple vertebral (L2–5) and left iliac bone metastases (figure 1). There were no pelvic lymph nodes on CECT. Tc-99m methyl diphosphate scintigraphy showed skeletal metastases in C6–7, T3–4 and L2 vertebrae (figure 2). A transrectal ultrasound-guided 12-core biopsy was performed and showed adenocarcinoma (Gleason score 3+4=7; figure 3). Histopathology of the left inguinal lymph node showed metastatic adenocarcinoma, positive for PSA and negative for leukocyte common antigen and S100 (figure 4).

Figure 2 Tc-99m methyl diphosphate scintigraphy showing skeletal metastases in C6–7, T3–4 and L2 vertebrae.

CrossMark

To cite: Doreswamy K, Karthikeyan VS, Nagabhushana M, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-210825

Figure 3 Transrectal ultrasound biopsy of prostate showing (A) tumour cells arranged in sheets (H&E, $\times 10$) and (B) tumour cells positive for PSA (PSA, $\times 40$).

Figure 4 Lymph node biopsy showing (A) metastatic deposits in acinar pattern (H&E, $\times 4$) and (B) metastatic tumour cells in acinar pattern, showing patchy cytoplasmic positivity (PSA, $\times 40$).

TREATMENT

The patient's clinical stage was pT4N0M1; bilateral subcapsular orchiectomy was carried out.

OUTCOME AND FOLLOW-UP

The patient is doing well on bicalutamide.

DISCUSSION

CaP is the most common tumour in males,^{1 2} accounting for approximately 3.4% of all the cancers,³ and is the second most common cause of cancer-related death in males.^{1 2} CaP usually spreads by direct, lymphatic and haematogenous dissemination. It spreads to the prostatic capsule, bladder base and seminal vesicles by direct invasion.³ Lymphatic spread usually occurs to the external and internal iliac, obturator, presacral and hypogastric nodes, and then to para-aortic lymph nodes.^{3 4} CaP mainly spreads through the lateral route, to the obturator nodes (medial chain of external iliac), then to the middle and lateral chains of the external iliac nodes. The second most common route is the internal iliac (hypogastric) route. Also, drainage occurs along an anterior route, via nodes located anterior to the urinary bladder and a presacral route anterior to the sacrum and the coccyx. Lymph node spread tends to be ipsilateral in patients with a primary tumour affecting only one lobe of prostate.⁵ Haematogenous spread occurs most commonly to bone, lungs and liver.³

Inguinal lymphadenopathy in the absence of pelvic lymphadenopathy is very rare.⁴ Jackson *et al*⁶ reported that 9% of patients presenting with pelvic nodal enlargement had inguinal lymph node metastasis. CaP metastasising to inguinal lymph nodes has been reported preoperatively in two patients,^{7 8} and 12 years after radical prostatectomy and pelvic lymph node dissection on hormonal therapy in one case.² Many uncommon routes of lymphatic drainage have been reported, such as the periprostatic and seminal vesicle nodes, gonadal vessels,

mesenteric and mesocolic nodes, posterior iliac crest nodes and inferior phrenic nodes.² Postoperatively, inguinal lymphadenopathy may arise due to preoperative aberrant lymphatic drainage of prostate and postoperative distortion of the lymphatic drainage.² It is also possible that malignant cells can reach the inguinal nodes via spermatic cord through localised spread or from ectopic prostate tissue outside the genitourinary system.³

Inguinal lymphadenopathy can also occur due to metastasis from the urethral, penile and anal canal, and from lower limb cancers, lymphoma, leukaemia, infections and sexually transmitted diseases.² Excision biopsy is ideal because the larger sample will allow for better chances of actually detecting cancer cells if they are present.² Hence, adenocarcinoma of the prostate should be considered as an important cause for inguinal lymphadenopathy and this stresses the importance of clinical examination.

Learning points

- Prostatic adenocarcinoma usually spreads to the iliac nodes, but isolated inguinal secondaries are rare. Inguinal secondaries may be the presenting feature in rare cases and should be suspected if the patient has lower urinary tract symptoms.
- This also underscores the importance of clinical examination in these patients.

Contributors KD and VSK were involved in conceptualisation, data collection, literature search, drafting of the article and approval of final draft submitted. MN was involved in literature search, drafting of the article and approval of final draft. BS was involved in data collection, pathology, drafting and approval of final draft.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- Greenlee RT, Hill-Harmon MB, Murray T, *et al.* Cancer statistics, 2001. *CA Cancer J Clin* 2001;51:15–36.
- Komeya M, Sahoda T, Sugiura S, *et al.* A case of metastatic prostate adenocarcinoma to an inguinal lymph node. *Cent Eur J Urol* 2012;65:96–7.
- Lin HC, Chang TH, Li CC, *et al.* Metastatic prostate cancer found incidentally during an inguinal herniorrhaphy: a case report. *JTUA* 2007;18:39–41.
- Tunio MA, Hashami A, Raza SS. Metastatic prostate adenocarcinoma presenting with bilateral inguinal adenopathy. *J Surg Pak* 2011;16:85–7.
- Paño B, Sebastià C, Buñesch L, *et al.* Pathways of lymphatic spread in male urogenital pelvic malignancies. *Radiographics* 2011;31:135–60.
- Jackson AS, Sohaib SA, Staffurth JN, *et al.* Distribution of lymph nodes in men with prostatic adenocarcinoma and lymphadenopathy at presentation: a retrospective radiological review and implications for prostate and pelvis radiotherapy. *Clin Oncol (R Coll Radiol)* 2006;18:109–16.
- Huang E, Teh BS, Mody DR, *et al.* Prostate adenocarcinoma presenting with inguinal lymphadenopathy. *Urology* 2003;61:463.
- Slavis SA, Golji H, Miller JB. Re: carcinoma of the prostate presenting as inguinal adenopathy. *Cleve Clin J Med* 1990;57:97.

Copyright 2015 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.

BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow