

# Metastatic prostate cancer masquerading as lymphangioma circumscriptum



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**Key words:** cutaneous metastasis; lymphangioma; microcystic lymphatic malformation; prostate adenocarcinoma.

## INTRODUCTION

Cutaneous metastases from visceral malignancies occur in 0.7% to 9% of patients with cancer.<sup>1</sup> However, prostate cancer is one of the least likely malignancies to result in cutaneous metastasis. Cutaneous metastasis occurs in less than 0.1% of patients with prostate cancer.<sup>2</sup> Prostatic cutaneous metastases most often present as multiple papules or nodules in the inguinal region.<sup>3</sup>

Here, we report a case of cutaneous metastases of prostate adenocarcinoma mimicking lymphangioma circumscriptum.

## CASE REPORT

A 71-year-old man presented with a 2-month history of a localized, asymptomatic rash involving the bilateral inguinal region. The patient had a past medical history significant for long-standing untreated bilateral inguinal hernias and castration-resistant stage IV prostatic adenocarcinoma with known metastases to the bone, lymph nodes, and liver. He had recently completed a 4-month course of chemotherapy with docetaxel and was on cabazitaxel therapy at the time of presentation. He had previously failed a 2-week trial of topical nystatin cream to the area, as prescribed by his genitourinary oncologist.

Physical examination revealed grouped 3- to 8-mm translucent pink papules and nodules with papillomatous projections on a background of well-defined purpura involving the left inguinal crease and scrotum, the largest measuring 1.1 cm in



**Fig 1.** Translucent pink papules and nodules with papillomatous projections on a background of well-defined purpura involving the left inguinal crease and scrotum.

diameter (Fig 1). Significant left-sided scrotal edema and erythema were also noted. Based on the clinical findings, in the setting of his inguinal hernia, a diagnosis of cutaneous lymphangiectasia or microcystic lymphangioma circumscriptum was suspected. Scallop biopsy was performed, with

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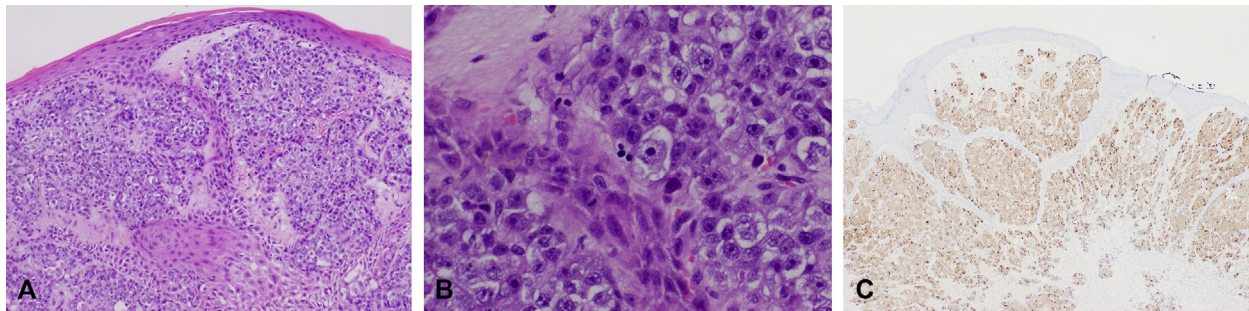
IRB approval status: Not applicable.

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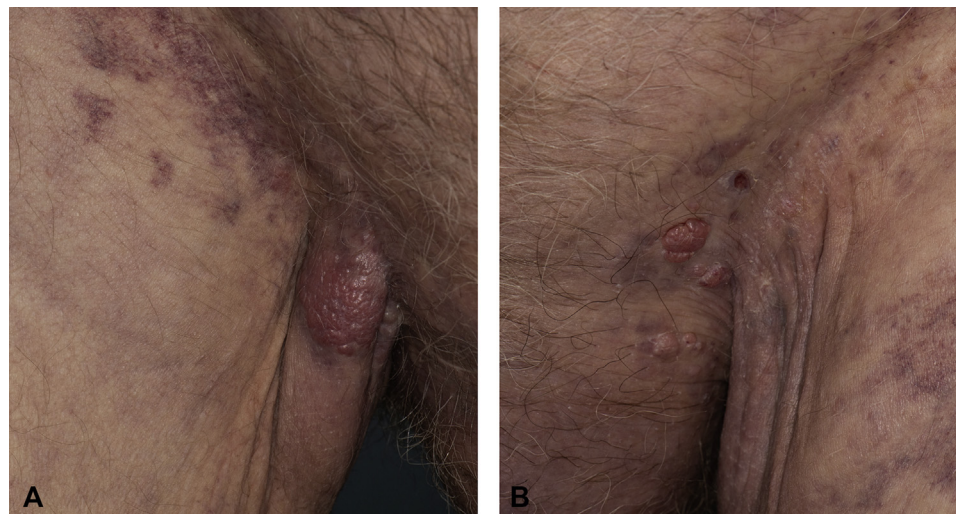
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**Fig 2.** **A**, Sheets of nested malignant epithelioid cells in the superficial to mid dermis (hematoxylin-eosin stain; original magnification:  $\times 5$ ). **B**, Epithelioid cells with vesicular nuclei and some cytoplasmic clearing with focal epidermotropic involvement (hematoxylin-eosin stain; original magnification:  $\times 40$ ). **C**, Immunohistochemical staining of lesional cells showing strong expression of prostate-specific antigen.



**Fig 3.** Marked coalescence and flattening of the exophytic lesions on both inguinal folds seen 10 days after biopsy; **(A)**, right inguinal fold; **(B)** left inguinal fold.

hematoxylin-eosin–stained sections revealing sheets of nested malignant epithelioid cells in the dermis (Fig 2, A). The cells had vesicular nuclei and cytoplasmic clearing with focal epidermotropic involvement (Fig 2, B). Immunohistochemical stains showed that the lesional cells strongly expressed NKX.3.1, prostate-specific antigen (A1 and A2), and CAM5.2, consistent with a diagnosis of metastatic prostatic adenocarcinoma (Fig 2, C). At a 10-day follow-up with his oncology team, the patient's rash was rephotographed with marked coalescence and flattening of the exophytic lesions on both inguinal folds (Fig 3, A and B).

## DISCUSSION

Prostatic adenocarcinoma is the most common noncutaneous malignancy in men and is the second leading cause of cancer-related deaths in men in the United States.<sup>4</sup> Cutaneous metastasis is rare,

occurring in only 0.03% to 0.6% of the cases, and is associated with advanced-stage disease and worse prognosis.<sup>2</sup> This presents as multiple nodules or papules and most commonly affects the penis or inguinal region.<sup>3,5</sup> Cases resembling a zosteriform rash, cellulitis, angiosarcoma, mammary Paget disease, basal cell carcinoma, sebaceous cyst, trichoepithelioma, pyoderma gangrenosum, and morphea are described in the literature.<sup>2,6</sup> Due to the rarity and diversity of clinical manifestations of cutaneous metastatic prostate cancer, histopathologic analysis with immunohistochemical staining is important in confirming the diagnosis.

Lymphangioma circumscriptum, or microcystic lymphatic malformation, is an uncommon and benign condition that may be congenital or, less commonly, acquired. Acquired lymphangioma circumscriptum occurs secondary to dilation of previously normal lymphatic channels that have become

obstructed by external causes, including hernias, tumors, prior lymphatic infections, radiation, or surgery. Diagnosis is usually recognized clinically, with lesions appearing as a cluster of small, cutaneous, translucent vesicles that resemble frogspawn and are otherwise asymptomatic.<sup>7-9</sup> We present a case of cutaneous metastatic prostatic adenocarcinoma masquerading as lymphangioma circumscriptum to bring awareness to this unique presentation and highlight the importance of performing a biopsy of new skin findings in patients with known carcinomas.

#### Conflicts of interest

None disclosed.

#### REFERENCES

1. Brownstein MH, Helwig EB. Patterns of cutaneous metastasis. *Arch Dermatol*. 1972;105(6):862-868.
2. Brown GT, Patel V, Lee CC. Cutaneous metastasis of prostate cancer: a case report and review of the literature with bioinformatics analysis of multiple healthcare delivery networks. *J Cutan Pathol*. 2014;41(6):524-528. <https://doi.org/10.1111/cup.12296>
3. Wang SQ, Mecca PS, Myskowski PL, Slovin SF. Scrotal and penile papules and plaques as the initial manifestation of a cutaneous metastasis of adenocarcinoma of the prostate: case report and review of the literature. *J Cutan Pathol*. 2008;35(7):681-684. <https://doi.org/10.1111/j.1600-0560.2007.00873.x>
4. Islami F, Ward EM, Sung H, et al. Annual report to the nation on the status of cancer, Part 1: National cancer statistics. *J Natl Cancer Inst*. 2021;113(12):1648-1669. <https://doi.org/10.1093/jnci/djab131>
5. Gandaglia G, Abdollah F, Schiffmann J, et al. Distribution of metastatic sites in patients with prostate cancer: a population-based analysis. *Prostate*. 2014;74(2):210-216. <https://doi.org/10.1002/pros.22742>
6. Reddy S, Bang RH, Contreras ME. Telangiectatic cutaneous metastasis from carcinoma of the prostate. *Br J Dermatol*. 2007;156(3):598-600. <https://doi.org/10.1111/j.1365-2133.2006.07696.x>
7. Patel GA, Schwartz RA. Cutaneous lymphangioma circumscriptum: frog spawn on the skin. *Int J Dermatol*. 2009;48(12):1290-1295. <https://doi.org/10.1111/j.1365-4632.2009.04226.x>
8. Schwartz RA. Cutaneous metastatic disease. *J Am Acad Dermatol*. 1995;33(2 Pt 1):161-185. [https://doi.org/10.1016/0190-9622\(95\)90231-7](https://doi.org/10.1016/0190-9622(95)90231-7)
9. Kandula S, Mark L, Warren S. Acquired lymphangioma circumscriptum. *J Am Acad Dermatol*. 2012;66(4):AB41.