Quiz

Multiple asymptomatic papules on the glans penis

A 71-year-old man presented with a 3-month history of asymptomatic glans penis lesions [Figures 1 and 2], with numerous red, indurated, partially fusing 1 mm papules. There was no inguinal lymphadenopathy. Complete blood count, routine urinalysis, stool microscopy and liver and renal function test results were normal. Results for a serological test for human immunodeficiency virus, and both the toluidine red unheated serum test (TRUST) and *Treponema pallidum* particle agglutination tests for syphilis were negative. The patient had been diagnosed with prostatic adenocarcinoma in May 2009. He had undergone surgery at that time and was receiving abiraterone acetate (Zytiga) treatment for the past 10 months. Computed tomography confirmed widespread osseous [Figure 3] and lymphatic metastases; however, metastases were not observed in the retroperitoneal and pelvic lymph nodes at admission or 3 months later.

Biopsy of the papule on the penis showed nests of poorly differentiated tumor cells in the whole dermis, with thinned epidermis [Figure 4]. The tumor cells showed pale cytoplasm with gland formation [Figure 5]. A few of the tumor cells were positive for prostate specific antigen (PSA) [Figure 6]. The tumor cells were positive for cytokeratin [Figure 7], but negative for P63, P504S, CD31, and D2-40.

WHAT IS YOUR DIAGNOSIS?

Figure 1: Multiple papules on the glans penis (dorsal side)

Figure 2: Similar papules on the glans penis (ventral side)

How to cite this article: Zhou C, Zhai Z, Yang X, Shen Z. Multiple asymptomatic papules on the glans penis. Indian J Dermatol Venereol Leprol 2015;81:431-3.

Received: September, 2014. **Accepted:** January, 2015. **Source of Support:** Nil. **Conflict of Interest:** None declared.

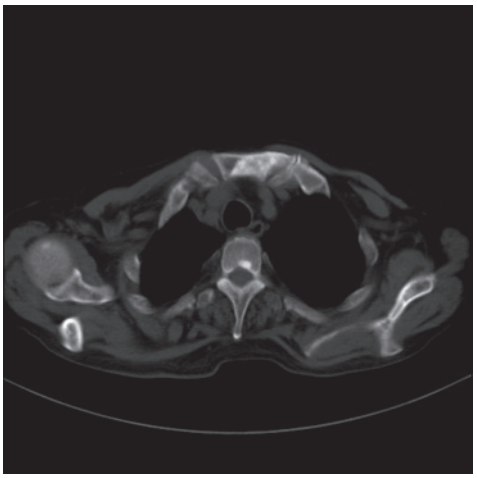

Figure 3: Computed tomography scan showed metastasis of sternum, thoracic vertebra and spealbone

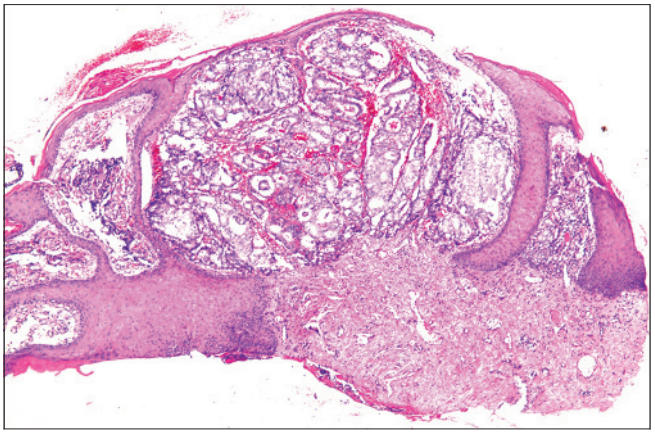

Figure 4: A thinned epidermis and neoplastic cells filling the dermis (H and E, 25×)

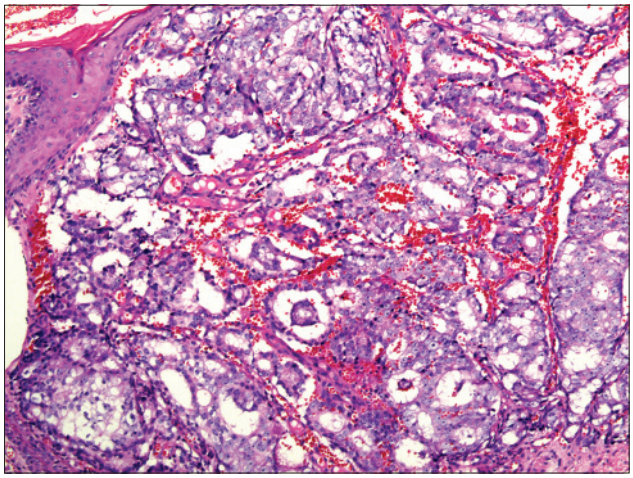

Figure 5: The tumor cells with pale cytoplasm, showing adenoid formation (H and E, 100×)

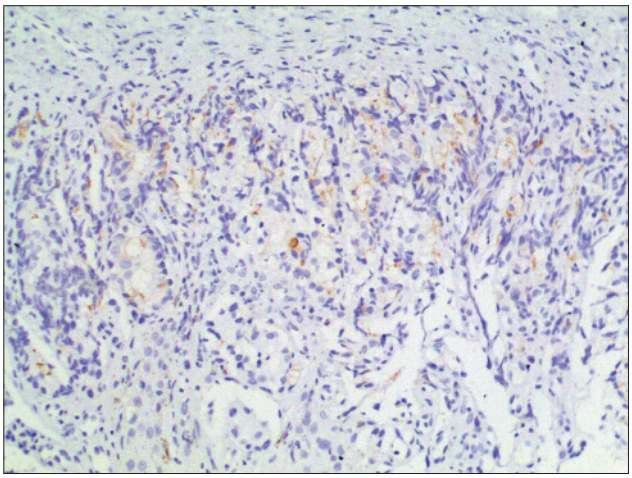

Figure 6: Immunohistochemistry showing individual cytoplasmic positivity for prostate-specific antigen (200×)

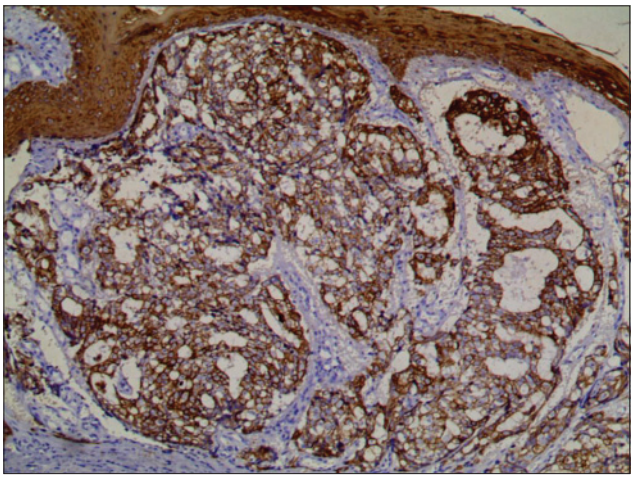

Figure 7: Immunohistochemistry showing cytoplasmic positivity for cytokeratin (100×)

ANSWER

Diagnosis

Glans penis metastases from prostate cancer.

DISCUSSION

After diagnosis, the patient was referred to the oncology department for further medical management and palliative treatment. Although the number of papules on the glans penis increased and fused together during the subsequent 3 months, the patient remained stable with prostatic neoplasia.

Penile metastases are extremely rare, despite the rich vascularization and complex circulation of the penis. The most common primary disease is urogenital cancer followed by gastrointestinal cancer.[1]

The penis is an uncommon site for metastasis from the prostate, despite their proximity. This type of metastatic carcinoma usually presents as painless nodules in the glans penis. Adenocarcinoma of the prostate usually spreads systemically to the bones, lymph nodes, lungs and liver; however, it accounts for less than 1% of all skin metastases, usually occurring on the trunk.[2] The following possible mechanisms of penile metastasis from prostate adenocarcinoma have been noted: (i) dissemination through the lymphatic duct, (ii) dissemination through the blood stream, (iii) implantation, and (iv) direct invasion.[1] We suggest that, in our case, dissemination may have occurred through the blood stream because lymphadenopathy was not observed in the groin.

Penile metastases from prostate cancer present as single or multiple skin nodules over the prepuce, glans, or the coronal sulcus. Other modes of presentation are urethral ulceration, local obstruction, priapism and severe penile pain, which may be an important clinical symptom.[3] In the present case, the patient had no clinical symptoms and presented with approximately one hundred papules; we were unable to find similar previous reports. Most of the tumor cells from the papules were immunohistochemically negative for prostate specific antigen (PSA), probably because of the effects of radiotherapy and hormonal therapy which decrease or abolish PSA expression in tumor cells.[4]

Although the patient remained stable with prostatic cancer after 3 months of showing penile metastasis, the prognosis is likely to be poor. Forty-one percent of patients with penile metastasis from prostate cancer have been reported to die within 6 months of diagnosis.[5]

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Quick Response Code:	Website: www.ijdvl.com
	DOI: 10.4103/0378-6323.158661