Extramammary Paget's Disease in Prostate

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INTRODUCTION

Extramammary Paget's disease is a condition morphologically similar to Paget's disease in the breast, but occurs outside the breast. It is an uncommon condition as compared to its mammary counterpart. It most commonly affects the vulva, less commonly the male genital area or the perianal area.[1,2] To the best of our knowledge, extramammary Paget's disease has not been described in prostate previously. We therefore report this particular case.

CASE REPORT

A 70-year-old male presented to the surgery outpatient department with complaints of dribbling micturition and nocturia since 2 years earlier. There was also a history of episodes of urinary retention which had been relieved by catheterization. The patient had received medical therapy on 2 occasions; however, it failed to bring any relief to the patient.

Transrectal ultrasonography showed an enlarged prostate weighed 37 g. Serum prostate-specific antigen level was 3.4 ng/mL. Based on the above clinical presentation, a decision to carry out transurethral resection of the prostate was made. Multiple prostatic chips together measuring 6 × 4 × 2 cm were received in the histopathology department. Microscopic examination predominantly showed features of nodular hyperplasia of the prostate (Figure 1), with a single bit of tissue lined by stratified squamous epithelium, showing Paget's cells within the epidermis (Figures 2 and 3). These cells were found to be more in number in the lower layers

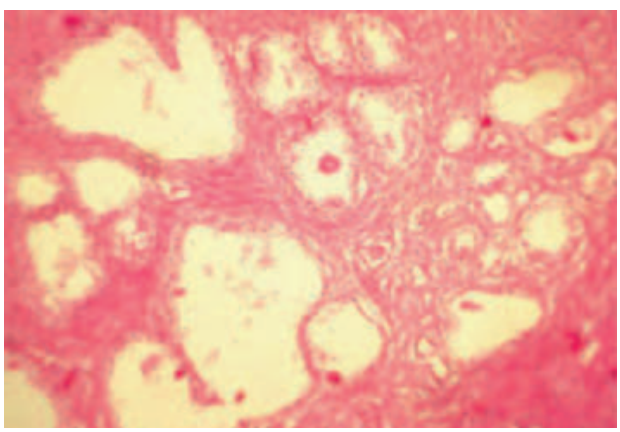

Figure 1. Morphological features of nodular hyperplasia prostate (× 100).

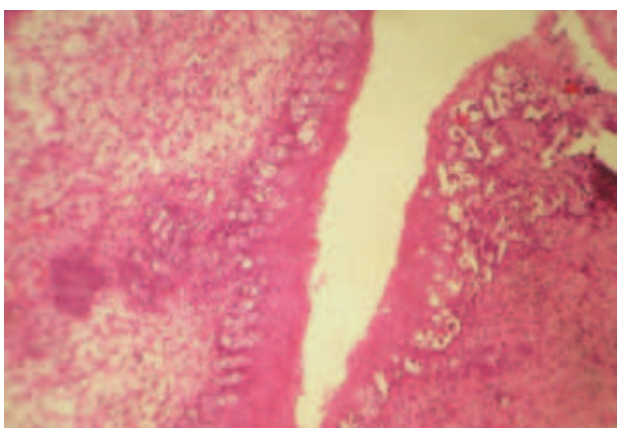

Figure 2. Single tissue bit lined by stratified squamous epithelium showing Paget's cells in the lower layers of epidermis (× 100).

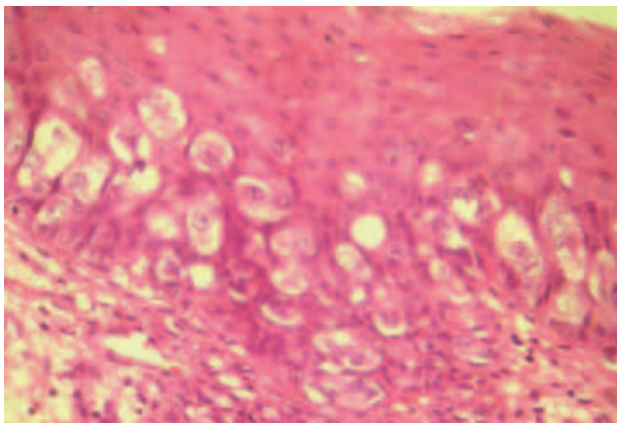

Figure 3. Paget's cells in higher magnification (× 400).

of the epidermis as compared to the upper layers. The Paget's cells were present as single isolated cells or in small groups. They were enlarged and had large nuclei with pale cytoplasm.

In view of the above morphological features, a diagnosis of extramammary Paget's disease was made. We considered the possibility of invasion to the urinary bladder, prostate, external genitalia, and anal canal. Cystoscopic examination of the bladder did not reveal any visible growth in the bladder. The prostatic tissue submitted in the specimen also did not demonstrate any evidence of malignancy. Physical examination of the external genitalia and the anal canal did not reveal any visible growth. Immunohistochemistry was then performed on the tissue sections using cytokeratin 7 (CK7) and cytokeratin 20 (CK20) antibodies. The Paget's cells were weakly positive for CK7, interpreted as negative (Figure 4) and negative for CK20 (Figure 5). Based on the above

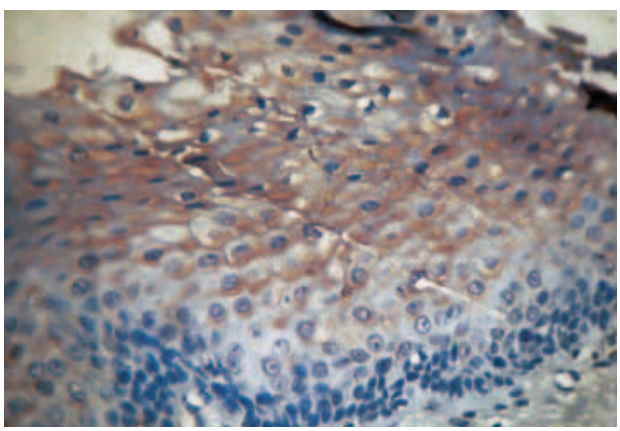

Figure 4. Paget's cells showing weak positivity for cytokeratin 7 (× 400).

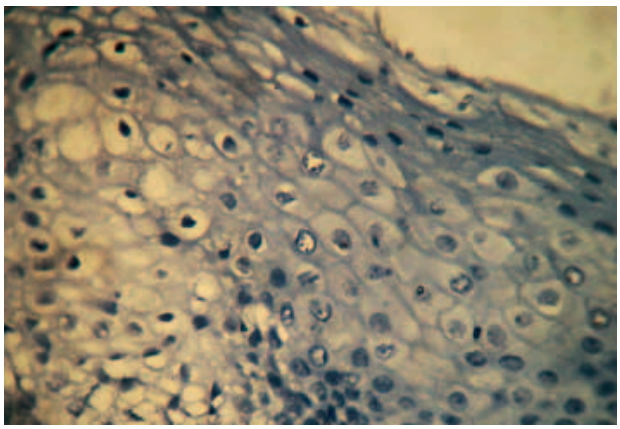

Figure 5. Paget's cells negative with cytokeratin 20 (× 400).

immunohistochemistry findings, a primary prostatic origin of extramammary Paget's disease was suggested. A thorough physical examination and detailed investigations carried out did not reveal any associated pathologic findings.

DISCUSSION

Paget's disease most commonly affects the vulva, and less commonly, the male genital area or the perianal area. In exceptional cases only, the axilla, the region of the ceruminous glands, or that of Moll's glands are reported to be affected by extramammary Paget's disease.[3,4] In cases with the involvement of the axilla, the genital area may also be affected. Thus, extramammary Paget's disease involves areas in which apocrine glands are normally encountered. In the rare instances, extramammary Paget's disease is a secondary event caused by extension of an adenocarcinoma either of the rectum to the perianal region, of the cervix to the vulvar region, or of the urinary bladder to the urethra and glans penis, or to the groin.[2,5-8]

Extramammary Paget's disease has not been reported previously in the prostate (transurethral resection of the prostate chips). However, various authors have reported cases of carcinoma originating in ducts surrounding the prostatic urethra and in intraductal carcinoma.[9,10] Ullman and Ross[11] described features of hyperplasia, atypia, and carcinoma in situ in prostatic periurethral glands. Transitional cell carcinoma has also been reported in the prostate, previously.[12-15] Immunohistochemical findings of

CK7- /CK20- helped us suggest a diagnosis in this case. Lopez-Beltran and coworkers[16] suggested that a panel of immunostains including CK7/CK20 might assist in differentiating urothelial carcinoma (CK7+/CK20+) from extramammary Paget's disease of anorectal origin which is known to be CK7+/CK20-. As the present case was negative for both CK7 and CK20, possibility of a prostatic origin was suggested. Powell and colleagues[17] suggested that genital extramammary Paget's disease could represent concurrence of two separate malignancies.

CONFLICT OF INTEREST

None declared.

REFERENCES

1. Murrell TW, Jr., Mc Mullan FH. Extramammary Paget's disease. A report of two cases. Arch Dermatol. 1962;85:600-13.
2. Helwig EB, Graham JH. Anogenital (extramammary) Paget's disease. A clinicopathological study. Cancer. 1963;16:387-403.
3. Fligiel Z, Kaneko M. Extramammary Paget's disease of the external ear canal in association with ceruminous gland carcinoma. A case report. Cancer. 1975;36:1072-6.
4. Whorton CM, Patterson JB. Carcinoma of Moll's glands with extramammary Paget's disease of the eyelid. Cancer. 1955;8:1009-15.
5. McKee PH, Hertogs KT. Endocervical adenocarcinoma and vulval Paget's disease: a significant association. Br J Dermatol. 1980;103:443-8.
6. Metcalf JS, Lee RE, Maize JC. Epidermotropic urothelial carcinoma involving the glans penis. Arch Dermatol. 1985;121:532-4.
7. Ikezawa Z, Ohashi Y, Nakajima H, Nagai R, Matsuoka S. An unusual case of extramammary Paget's disease. Paget's disease of the glans penis probably originating from a prostatic duct carcinoma (transitional cell carcinoma of the prostate). J Dermatol. 1977;4:19-25.
8. Ojeda VJ, Heenan PJ, Watson SH. Paget's disease of the groin associated with adenocarcinoma of the urinary bladder. J Cutan Pathol. 1987;14:227-31.
9. Ende N, Woods LP, Shelley HS. Carcinoma Originating in Ducts Surrounding the Prostatic Urethra. Am J Clin Pathol. 1963;40:183-9.
10. Rhamy RK, Buchanan RD, Spalding MJ. Intraductal carcinoma of the prostate gland. J Urol. 1973;109: 457-60.
11. Ullmann AS, Ross OA. Hyperplasia, atypism, and carcinoma in situ in prostatic periurethral glands. Am J Clin Pathol. 1967;47:497-504.
12. Karpas CM, Moumgis B. Primary transitional cell carcinoma of prostate gland: possible pathogenesis and relationship to reserve cell hyperplasia of prostatic periurethral ducts. J Urol. 1969;101:201-5.
13. Rubenstein AB, Rubnitz ME. Transitional cell carcinoma of the prostate. Cancer. 1969;24:543-6.
14. Bates HR, Jr. Transitional cell carcinoma of the prostate. J Urol. 1969;101:206-7.
15. Johnson DE, Hogan JM, Ayala AG. Transitional cell carcinoma of the prostate. A clinical morphological study. Cancer. 1972;29:287-93.
16. Lopez-Beltran A, Luque RJ, Moreno A, Bollito E, Carmona E, Montironi R. The pagetoid variant of bladder urothelial carcinoma in situ A clinicopathological study of 11 cases. Virchows Arch. 2002;441:148-53.
17. Powell FC, Bjornsson J, Doyle JA, Cooper AJ. Genital Paget's disease and urinary tract malignancy. J Am Acad Dermatol. 1985;13:84-90.