Nodular Extramammary Paget Disease With Fibroepitheliomatous Hyperplasia

Joung Soo Kim, MD, PhD; Myeong Gil Jeong, MD; Ho Song Kang, MD; Hee Joon Yu, MD, PhD

Practice Points

- Extramammary Paget disease (EMPD) should be considered in the clinical differential diagnosis of verrucous nodules in the pubic area.
- Histopathologically, EMPD in the anogenital area could show fibroepitheliomatous hyperplasia with lacy strands of squamous epithelium.

Extramammary Paget disease (EMPD) is a rare skin condition usually found in the anogenital region. Histologically, EMPD may be associated with varying degrees of epidermal hyperplasia classified as squamous, papillomatous, or fibroepitheliomatous. We report a case of EMPD in a 90-year-old man who presented with well-demarcated plaques and a nodule in the pubic area with fibroepitheliomatous hyperplasia.

Cutis. 2014;94:276-278.

Extramammary Paget disease (EMPD) is an uncommon neoplasm that most commonly occurs in the anogenital region but can arise in any area of the skin or mucosa.[1] On clinical examination, EMPD typically presents as a sharply demarcated, erythematous, eczematoid, weeping lesion with varying degrees of induration; it rarely presents as a palpable mass or evenly raised nodule.[2] Microscopically, it may be accompanied by varying degrees of epidermal hyperplasia.[1] In particular, fibroepitheliomatous hyperplasia contains lacy strands of squamous epithelium resembling fibroepithelioma of Pinkus.[3] We report a case of EMPD in a 90-year-old man who presented with a verrucous nodule in the pubic area that histologically demonstrated fibroepitheliomatous hyperplasia with lacy strands of squamous epithelium.

Case Report

A 90-year-old man presented with asymptomatic, well-demarcated, erythematous plaques in the pubic area of 5 years' duration, along with a 3.0×2.5-cm nodule on the left side of the pubic area (Figure 1).

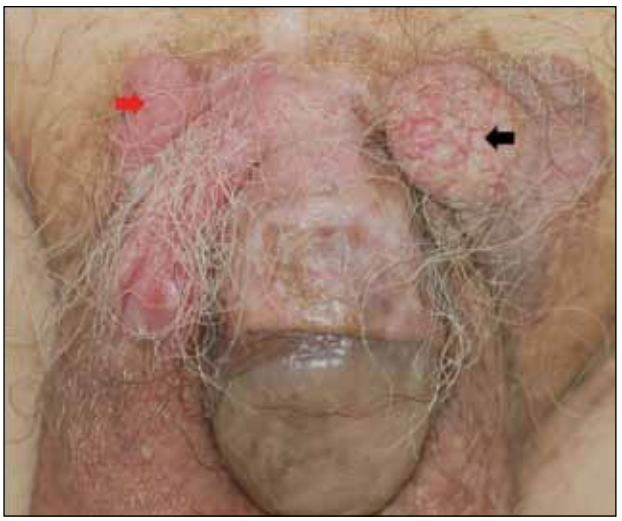

Figure 1. Well-demarcated erythematous plaques (red arrow) in the pubic area and a 3.0×2.5-cm verrucous erythematous nodule (black arrow) on the left side of the pubic area.

From the Department of Dermatology, Hanyang University College of Medicine, Seoul, South Korea.
The authors report no conflict of interest.
Correspondence: Hee Joon Yu, MD, PhD, Department of Dermatology, Hanyang University, Guri Hospital, 249-1, Gyomun-dong, Guri 471-701, South Korea (yuhjoon@hanyang.ac.kr).

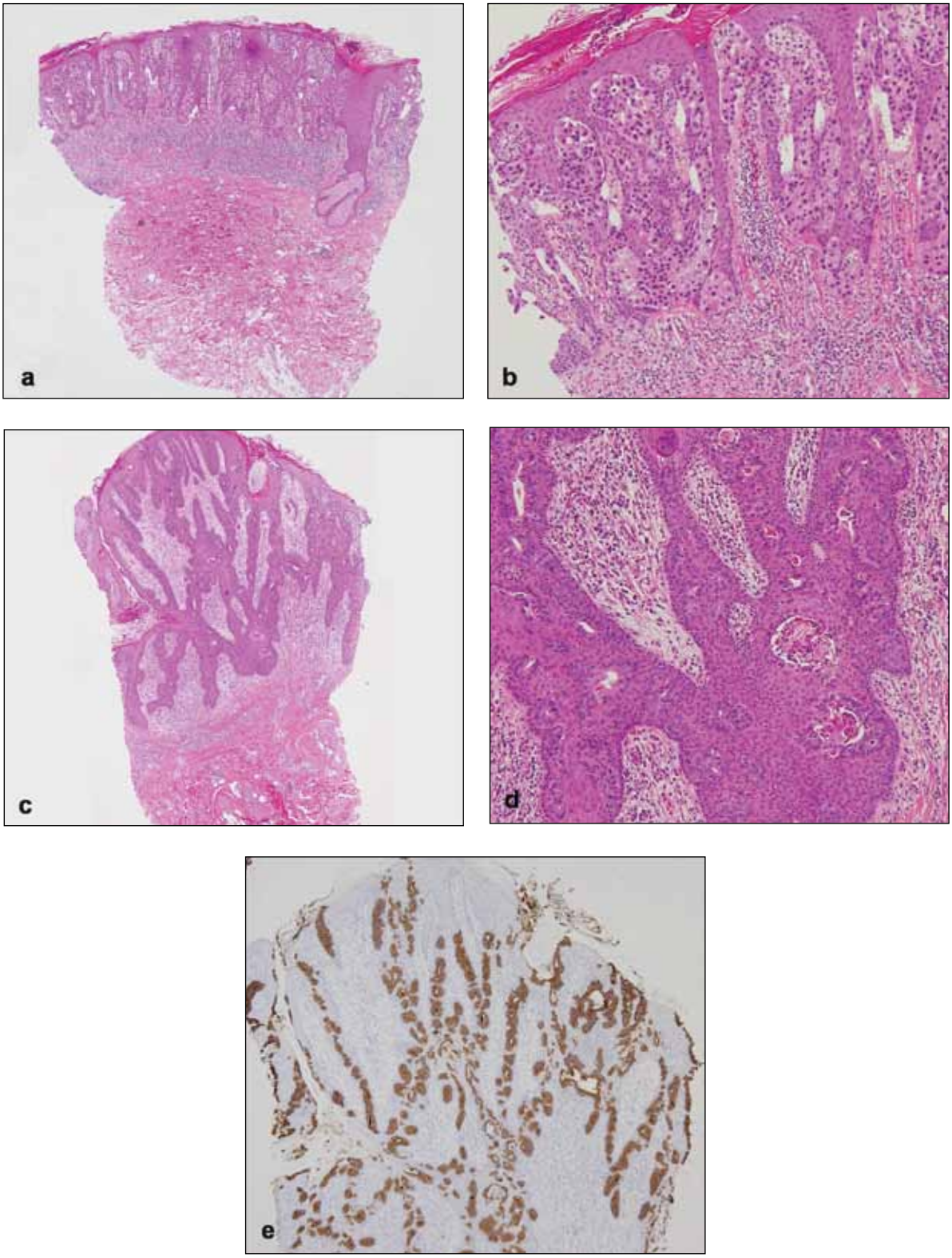

Figure 2. Scanning power view demonstrated a plaque containing Paget cells at various levels of the epidermis (A) (H&E, original magnification ×40). The lesion contained a number of large round cells with abundant pale cytoplasm and pleomorphic hyperchromatic nuclei (B)(H&E, original magnification ×100). The nodule contained lacy strands of squamous epithelium on scanning power view (C)(H&E, original magnification ×40). Tumor cells with numerous glandular structures were observed (D)(H&E, original magnification ×100). Paget cells stained positive with cytokeratin 7 (E)(original magnification ×40).

Laboratory test results including a complete blood cell count, blood chemistry, and routine urinalysis were within reference range. Punch biopsies were taken from each plaque and nodule, as marked with arrows in Figure 1. Histopathologically, the plaques were seen to contain a number of large round cells with abundant pale cytoplasm and pleomorphic hyperchromatic nuclei that were present at various levels of the epidermis where they formed nests and clusters but did not extend into the dermis (Figures 2A and 2B). The nodule contained lacy strands of squamous epithelium extending from the epidermis to the mid dermis as well as many glandular structures (Figures 2C and 2D). The cells in the epidermis stained positively with periodic acid–Schiff (PAS), carcinoembryonic antigen (CEA), and cytokeratin 7 (Figure 2E). We also tested for S-100 protein to rule out malignant melanoma, which was negative.

Based on both the clinical and histological features, a diagnosis of EMPD with fibroepitheliomatous hyperplasia was made. It was recommended that the patient undergo further evaluation and treatment; he declined due to his financial situation and was subsequently lost to follow-up.

Comment

Clinically, EMPD usually presents as a patch of macular erythema, an erythematous eruption, or erythematous papules and plaques.[4] The palpable nodule seen in our patient is not a common presentation of EMPD. Pruritus is the most common symptom of EMPD, occurring in 70% of patients.[5] Other symptoms include burning, irritation, pain, tenderness, bleeding, and swelling. Ten percent of EMPD cases are asymptomatic.[5]

Histologically, Paget cells primarily involve the epidermis where they usually form clusters or solid nests. In more than 90% of EMPD cases, the Paget cells contain cytoplasmic mucin that stains positively with mucicarmine and PAS. Immunohistochemical staining for cytokeratin 7, gross cystic disease fluid protein-15, S-100 protein, and CEA sometimes may be needed to differentiate from mimickers such as Bowen disease and superficial spreading melanoma.[6] In our patient, the tumor cells stained positive for cytokeratin 7, CEA, and PAS. Malignant melanoma was ruled out with a test for S-100 protein.

Extramammary Paget disease often is associated with epidermal hyperplasia, which can be classified as squamous, papillomatous, or fibroepitheliomatous.[3] Microscopically, squamous hyperplasia is characterized by prominent thickening of the epidermis from diffuse plaquelike hyperplasia and is usually associated with hyperkeratosis. Papillomatous hyperplasia has an exophytic papillary or verrucous architecture and is associated with parakeratosis. Fibroepitheliomatous, or fibroepitheliomalike, hyperplasia generally consists of a discrete, broad, elevated plaque or nodule produced by hyperplasia of keratinocytes that form lacy strands of squamous epithelium.[3] The biphasic pattern of proliferating epidermis and entrapped dermis simulates a so-called fibroepithelioma. Paget cells can be seen within the lacy strands of epidermal columns and in the acanthotic surface component.[2] The finding of fibroepitheliomatous hyperplasia in anogenital skin should prompt a search for the diagnostic Paget cells to eliminate a fibroepithelioma of Pinkus variant of basal cell carcinoma, though the latter is uncommon and rarely occurs at this site.[7]

Of the 3 types of epidermal hyperplasia, our case demonstrated the fibroepitheliomatous type. There may be some relationship between EMPD and fibroepitheliomatous hyperplasia because most reported cases of EMPD with fibroepitheliomatous hyperplasia have occurred in the anogenital region. Also, epidermal hyperplasia is more frequent in anogenital Paget disease than in axillary Paget disease.[8]

Conclusion

Our case showed the unique finding of a verrucous nodular EMPD lesion in which peculiar histological features presented as extensions of the tumor cells forming lacy strands of squamous epithelium from the epidermis to the mid dermis as well as many glandular structures.

REFERENCES

1. Lloyd J, Flanagan AM. Mammary and extramammary Paget's disease. *J Clin Pathol*. 2000;53:742-749.
2. Billings SD, Roth LM. Pseudoinvasive, nodular extramammary Paget's disease of the vulva. *Arch Pathol Lab Med*. 1998;122:471-474.
3. Brainard JA, Hart WR. Proliferative epidermal lesions associated with anogenital Paget's disease. *Am J Surg Pathol*. 2000;24:543-552.
4. Neuhaus IM, Grekin RC. Mammary and extramammary Paget disease. In: Wolff K, Goldsmith LA, Katz SI, et al, eds. *Fitzpatrick's Dermatology in General Medicine*. Vol 1. 7th ed. New York, NY: McGraw-Hill; 2008:1094-1098.
5. Shepherd V, Davidson EJ, Davies-Humphreys J. Extramammary Paget's disease. *BJOG*. 2005;112:273-279.
6. Kim JC, Kim HC, Jeong CS, et al. Extramammary Paget's disease with aggressive behavior: a report of two cases. *J Korean Med Sci*. 1999;14:223-226.
7. Rahbari H, Mehregan AH. Basal cell epitheliomas in usual and unusual sites. *J Cutan Pathol*. 1979;6:425-431.
8. Ishida-Yamamoto A, Sato K, Wada T, et al. Fibroepithelioma-like changes occurring in perianal Paget's disease with rectal mucinous carcinoma: case report and review of 49 cases of extramammary Paget's disease. *J Cutan Pathol*. 2002;29:185-189.