

Case Presentation

Basal cell carcinoma of the perineum

Adriane Ann Levin BA^{1,2}, Tushar Dabade MD¹, Monisha Dandekar MD¹, Gary Rogers MD¹, David Rosmarin MD¹

Dermatology Online Journal 20 (8): 9

¹Tufts Medical Center, Department of Dermatology

²Boston University School of Medicine

Correspondence:

Adriane Ann Levin
Tufts Medical Center
Department of Dermatology
800 Washington Street
Boston, MA 02111
adriane.levin@gmail.com

Abstract

Basal cell carcinoma (BCC) is the most common nonmelanoma skin cancer. Most BCCs are found on areas of UV-damaged skin. The study of BCCs of sun-protected regions, however, suggests a more complex pathogenesis. We present a case of BCC of the perineum in a man with no previous history of skin cancer. This is the first report of BCC in this region and one of a small body of cases arising on or near the genital and perianal regions.

Keywords: nonmelanoma skin cancer, genitals, groin, Mohs micrographic surgery

Introduction

Basal cell carcinoma (BCC) is the most common nonmelanoma skin cancer [1] with the nodular variant comprising approximately 50% [2]. Nodular BCCs typically present as rolled pearly pink papules with telangiectasias, occasionally ulcerating. The classic distribution is over the face and neck, which correspond to locations of high UV damage over time. Recent reports of BCCs in non-sun exposed areas suggest a more complex etiology [3]. We present a case of an adult male with a BCC of the perineum and explore the implications of this finding. The perineum is defined as extending anteriorly from the anus to the posterior portion of the external genitalia.

Case synopsis

A 60-year-old man with no personal history of skin cancer presented for evaluation of a brown growth on his perineum that had been present for several months. The lesion was slowly growing and mildly pruritic. His exam revealed a 4 mm exophytic pink-brown papule (Figure 1). The differential diagnosis included achrochordon, verruca vulgaris, and nonmelanoma skin cancer, such as a squamous cell carcinoma. A shave biopsy was performed, which revealed a basal cell carcinoma, nodular growth pattern, approximating the deep margin (Figure 2). The lesion was definitively treated with Mohs micrographic surgery. Surgery successfully achieved clear margins and the wound was well healed on follow-up.



Figure 1. Over the perineum is one 4mm exophytic reddish-brown papule.

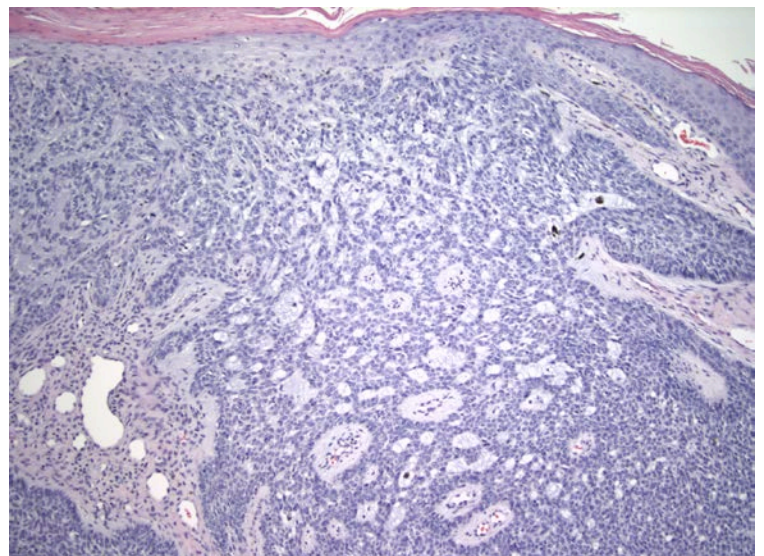
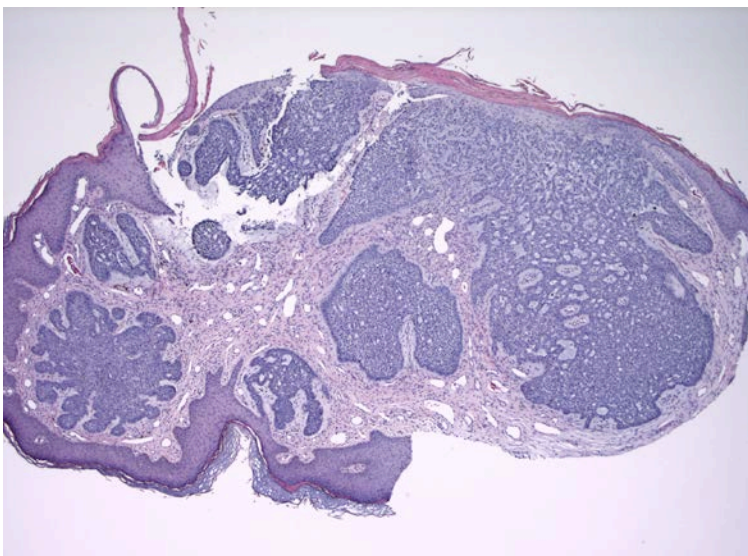


Figure 2. A: Basal cell carcinoma with a nodular growth pattern (H&E, 40x), B: Classic histology including peripheral palisading and stromal mucin (H&E, 100x)

Discussion

This report presents a rare case of BCC of the perineum. One case report described a patient with BCNS with polypoid BCCs of the perineum, which clinically resembled achrochordons [4], much as did the lesion in our patient. A different case report described patients with BCCs that appeared achrochordon-like, although they were not located on or near the genitals [5].

Gibson and Ahmed performed a retrospective review of a 20 year period at their institution and found that 0.27% (51) of BCCs were located in the perianal and genital regions. Lesions averaged 1.95cm in size with an average age of 0.73, and most (32) were treated with wide excision [6]. In a broader evaluation of all BCCs in covered areas, 26% were found on non sun-exposed sites with 6 located on the genital, perineal, and perianal areas [3].

BCCs of the vulva are rare; various studies quote their prevalence as high as 1.7% [7] or as low as less than 1% [8] of all BCCs. De Giorgi and colleagues found the average size among the 63 cases at their institution to be 2.1cm [7]. Affected women were on average in their 70s [8-10] and most were treated with wide local excision [7,9]. However, one case affecting the left labium major with clitoral involvement was treated with hemi-vulvectomy and bilateral inguinofemoral lymph node dissection [10].

Several case reports detail the occurrence of BCCs on the scrotum, with one review suggesting that 50% are initially misdiagnosed [11] leading to 8 [12], 10 [13], and 51-year [14] delays in diagnosis. Among these was a rare case of giant (>5cm) BCC of the scrotum [13]. Most cases were treated with wide local excision [12,14,15]. The largest cohort comes from a review of all patients diagnosed with BCC of the scrotum between 2000 and 2010 in China.. Ten patients were found to have scrotal BCCs with a median age of 70. Lesions presented as red nodules and brownish plaques and all were treated with wide local excision [11]. In the perianal region, one report describes a polypoid BCC [16] and an older report describes two BCCs of the anus [17].

Although rare, BCCs do occur in covered and sun-protected areas. New research sheds light on the origins and pathogenesis of this malignancy. Overactive hedgehog signaling is known to be a marker of BCC and is required for its growth [18]. Genetically, BCCs exhibit a high frequency of mutations in SMOH and PTCH1 [19]. Newman and Leffell found that BCCs are four times more likely to appear on embryonic fusion planes—the location of primordial migration of mesenchymal cells into early facial processes—than other areas of the central face [5].

Data suggests that diagnosis of BCCs in unusual locations is often delayed owing to lack of clinical suspicion. Therefore, it is important for clinicians to consider it in their differential diagnosis, particularly of non-healing lesions. Further research regarding the pathophysiology of this malignancy is needed to elucidate its occurrence in UV-naïve areas. Our patient had no personal history of skin cancers or toxic exposures that might predispose him to unusual malignancies; a yet unidentified mechanism is at work. A small body of evidence proposes trauma as an etiology for BCCs [20], which may have a role in the perineum and genitals where frictional forces can be great.

Conclusion

BCCs are not exclusively dependent on UV exposure and can appear in sun-protected areas such as the perineum. Clinicians must consider BCC in the differential diagnosis of patients with lesions in such regions.

References

1. Rubin AI, Chen EH, Ratner D. Basal-cell carcinoma. *The New England journal of medicine*. 2005;353(21):2262-9. doi: 10.1056/NEJMra044151. [PMID: 16306523].
2. Raasch BA, Buettner PG, Garbe C. Basal cell carcinoma: histological classification and body-site distribution. *The British journal of dermatology*. 2006;155(2):401-7. doi: 10.1111/j.1365-2133.2006.07234.x. [PMID: 16882181].
3. Betti R, Bruscajin C, Inselvini E, Crosti C. Basal cell carcinomas of covered and unusual sites of the body. *International journal of dermatology*. 1997;36(7):503-5. [PMID: 9268746].
4. Wang SQ, Goldberg LH. Multiple polypoid basal cell carcinomas on the perineum of a patient with basal cell nevus syndrome. *Journal of the American Academy of Dermatology*. 2007;57(2 Suppl):S36-7. doi: 10.1016/j.jaad.2006.08.052. [PMID: 17637368].
5. Lortscher DN, Sengelmann RD, Allen SB. Acrochordon-like basal cell carcinomas in patients with basal cell nevus syndrome. *Dermatology online journal*. 2007;13(2):21. [PMID: 17498440].
6. Gibson GE, Ahmed I. Perianal and genital basal cell carcinoma: A clinicopathologic review of 51 cases. *Journal of the American Academy of Dermatology*. 2001;45(1):68-71. doi: 10.1067/mjd.2001.114588. [PMID: 11423837].
7. de Giorgi V, Salvini C, Massi D, Raspollini MR, Carli P. Vulvar basal cell carcinoma: retrospective study and review of literature. *Gynecologic oncology*. 2005;97(1):192-4. doi: 10.1016/j.ygyno.2004.12.008. [PMID: 15790457].
8. Baker GM, Selim MA, Hoang MP. Vulvar adnexal lesions: a 32-year, single-institution review from Massachusetts General Hospital. *Archives of pathology & laboratory medicine*. 2013;137(9):1237-46. doi: 10.5858/arpa.2012-0434-OA. [PMID: 23991738].
9. Benedet JL, Miller DM, Ehlen TG, Bertrand MA. Basal cell carcinoma of the vulva: clinical features and treatment results in 28 patients. *Obstetrics and gynecology*. 1997;90(5):765-8. doi: 10.1016/S0029-7844(97)00416-X. [PMID: 9351761].

10. Celik H, Gurates B, Yavuz A, Dogan Z, Cobanoglu B, Saral Y. Vulvar basal cell carcinoma with clitoral involvement. *Acta dermato-venereologica*. 2009;89(2):191-2. doi: 10.2340/00015555-0566. [PMID: 19326012].
11. Dai B, Kong YY, Ye DW, Xu XW, Yao XD, Zhang SL. Basal cell carcinoma of the scrotum: clinicopathologic analysis of 10 cases. *Dermatologic surgery : official publication for American Society for Dermatologic Surgery [et al]*. 2012;38(5):783-90. doi: 10.1111/j.1524-4725.2012.02356.x. [PMID: 22309181].
12. Kinoshita R, Yamamoto O, Yasuda H, Tokura Y. Basal cell carcinoma of the scrotum with lymph node metastasis: report of a case and review of the literature. *International journal of dermatology*. 2005;44(1):54-6. doi: 10.1111/j.1365-4632.2004.02372.x. [PMID: 15663663].
13. Handa Y, Kato Y, Ishikawa H, Tomita Y. Giant superficial basal cell carcinoma of the scrotum. *European journal of dermatology : EJD*. 2005;15(3):186-8. [PMID: 15908305].
14. Jianwei W, Libo M, Jianwei W, Liqun Z, Lihua G. Basal cell carcinoma of the scrotum with a lesion of 51 years' duration. *International journal of dermatology*. 2012;51(6):752-4. doi: 10.1111/j.1365-4632.2010.04637.x. [PMID: 22171695].
15. Vandeweyer E, Deraemaeker R. Basal cell carcinoma of the scrotum. *The Journal of urology*. 2000;163(3):914. [PMID: 10688013].
16. Misago N, Narisawa Y. Polypoid Basal cell carcinoma on the perianal region: a case report and review of the literature. *The Journal of dermatology*. 2004;31(1):51-5. [PMID: 14739505].
17. Rosenthal D. Basal cell carcinoma of the anus: report of two cases. *Diseases of the colon and rectum*. 1967;10(5):397-400. [PMID: 6052921].
18. Hutchin ME, Kariapper MS, Grachtchouk M, Wang A, Wei L, Cummings D, et al. Sustained Hedgehog signaling is required for basal cell carcinoma proliferation and survival: conditional skin tumorigenesis recapitulates the hair growth cycle. *Genes & development*. 2005;19(2):214-23. doi: 10.1101/gad.1258705. [PMID: 15625189].
19. Tilli CM, Van Steensel MA, Krekels GA, Neumann HA, Ramaekers FC. Molecular aetiology and pathogenesis of basal cell carcinoma. *The British journal of dermatology*. 2005;152(6):1108-24. doi: 10.1111/j.1365-2133.2005.06587.x. [PMID: 15948971].
20. Ozyazgan I, Kontas O. Previous injuries or scars as risk factors for the development of basal cell carcinoma. *Scandinavian journal of plastic and reconstructive surgery and hand surgery / Nordisk plastikkirurgisk forening [and] Nordisk klubb for handkirurgi*. 2004;38(1):11-5. [PMID: 15074717].