results as those in healthy people, and the significantly higher ANA frequency in women with PHL was also similar to that in healthy people. However, ANA positivity in PHL patients did not increase with age as it does in healthy people. We suggest that the formation of ANA might result from skin immune homeostasis in PHL. The significance of ANA positivity and quantitative analysis of ANA should be performed in alopecia patients in the future.

REFERENCES

1. Solomon DH, Kavanaugh AJ, Schur PH; American College of Rheumatology Ad Hoc Committee on Immunologic Testing Guidelines. Evidence-based guidelines for the use of immunologic tests: antinuclear antibody testing. *Arthritis Rheum* 2002;47:434-444.
2. Li QZ, Karp DR, Quan J, Branch VK, Zhou J, Lian Y, et al. Risk factors for ANA positivity in healthy persons. *Arthritis Res Ther* 2011;13:R38.
3. Lee WS, Ro BI, Hong SP, Bak H, Sim WY, Kim do W, et al. A new classification of pattern hair loss that is universal for men and women: basic and specific (BASP) classification. *J Am Acad Dermatol* 2007;57:37-46.
4. Nyholt DR, Gillespie NA, Heath AC, Martin NG. Genetic basis of male pattern baldness. *J Invest Dermatol* 2003;121:1561-1564.
5. Cooper GS, Parks CG, Schur PS, Fraser PA. Occupational and environmental associations with antinuclear antibodies in a general population sample. *J Toxicol Environ Health A* 2006;69:2063-2069.
6. Nilsson BO, Skogh T, Enerudh J, Johansson B, Löfgren S, Wikby A, et al. Antinuclear antibodies in the oldest-old women and men. *J Autoimmun* 2006;27:281-288.
7. Guevara-Gutiérrez E, Vinh-Lao J, García-Gutiérrez P, Tlacuilo-Parra A. Frequency of antinuclear antibodies in mestizo Mexican children with morphea. *Clin Rheumatol* 2010;29:1055-1059.

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Basal Cell Carcinoma Presenting as a Perianal Ulcer and Treated with Radiotherapy

Hyun Soo Lee, Sue Kyung Kim

Department of Dermatology, Ajou University School of Medicine, Suwon, Korea

Dear Editor:

Basal cell carcinoma (BCC) in the perianal and genital areas accounts for <1% of all BCCs¹. If the patient is unsuitable or unwilling to receive surgical treatment, topical photodynamic therapy and radiotherapy can be considered alternative treatment options². In this report, we de-

scribe a case of BCC that presented as a perianal ulcer and showed a good response to radiotherapy.

An 83-year-old man presented with an erythematous ulcer on his perianal area for 3~4 years. The skin lesion was slowly growing, but did not cause pain or bleeding. He did not report any gastrointestinal symptoms. He had a

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Corresponding author: Sue Kyung Kim, Department of Dermatology, Ajou University Hospital, 164 WorldCup-ro, Yeongtong-gu, Suwon 443-380, Korea. Tel: 82-31-219-5190, Fax: 82-31-219-5189, E-mail: ksk9167@lycos.co.kr

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medical history of hypertension, diabetes mellitus, sub-arachnoid hemorrhage.

On examination, a single 3.0×3.0 cm-sized, erythematous, asymptomatic ulcer with raised edges was observed on the perianal area (Fig. 1A). Under the clinical impression of Paget disease or Crohn disease, punch biopsy was performed. Histopathologically, nodular masses of basaloid cells extended into the dermis and showed a peripheral palisading pattern, which were consistent with BCC (Fig. 1B).

He decided to undergo radiotherapy due to the high operative risk associated with his old age and history of sub-arachnoid hemorrhage. He received 3 Gy per fraction for 3 times a week for a total dose of 51 Gy over 17 fractions. At the end of radiotherapy, no acute radiogenic skin toxicities such as erythema and desquamation were noted. Two months after radiotherapy, the ulcerative lesion showed considerable clinical improvement (Fig. 1C) and still showed no aggravation after 5 month follow-up. The

patient refused to undergo an additional skin biopsy; therefore, he scheduled regular follow-up visits.

BCC of non-sun-exposed areas is extremely rare. Among the anogenital BCC, the pubis is the most common, followed by the perianal area, the scrotum, and the penis¹. Clinical appearance ranged from erythematous papules to noduloplaques, and ulcers. According to a previous report that reviewed 51 anogenital BCCs, ulcerated lesions were seen in 15 cases (29.4%)¹.

Perianal ulcerative BCC may initially be misdiagnosed as a benign dermatologic or gastrointestinal disease. Perianal Paget disease, cutaneous metastasis of gastrointestinal malignancy and Crohn disease should be excluded³.

Radiotherapy can be a treatment option in elderly patients and those with significant medical comorbidities⁴. In the present case, poor medical conditions and the location, which made it difficult for complete excision, rendered him unsuitable for surgery.

However, patients treated with radiotherapy should be

Fig. 1. Initial clinical findings of basal cell carcinoma (BCC) in the perianal area. (A) Single, erythematous, asymptomatic ulcer with raised edge in the perianal area. (B) Histopathological findings. Nodular masses of basaloid cells extending into the dermis. The islands of tumor cells show a peripheral, palisading pattern and the nuclei, as a rule, have a rather uniform appearance (H&E, ×100). (C) After 17 fractions of radiotherapy over 6 weeks, the ulcerative lesion of perianal BCC shows considerable clinical improvement.

closely followed up because BCC treated with radiotherapy recurs more often than that treated with Mohs micrographic surgery; Rowe et al.⁵ reported that the 5-year recurrence rate of radiotherapy-treated disease is higher (9.8%) than that of Mohs micrographic surgery (5.6%). Also, the potential for radiogenic toxicity in the skin should not be ignored, especially when it might cause severe functional discomfort.

In summary, we describe a rare case of BCC that presented as a perianal ulcer. Dermatologists should consider BCC in the differential diagnosis of a painless, ulcerated lesion on the perianal area. We also suggest considering radiotherapy in cases of BCC in the perianal area when surgical treatment is not possible.

REFERENCES

1. Gibson GE, Ahmed I. Perianal and genital basal cell carcinoma: A clinicopathologic review of 51 cases. *J Am Acad Dermatol* 2001;45:68-71.
2. Goldsmith LA, Katz SI, Gilchrest BA, Paller AS, Leffell DJ, Wolff K. *Fitzpatrick's dermatology in general medicine*. 8th ed. New York: McGraw-Hill, 2012:1299-1303.
3. Shah KR, Boland CR, Patel M, Thrash B, Menter A. Cutaneous manifestations of gastrointestinal disease: part I. *J Am Acad Dermatol* 2013;68:189.e1-21; quiz 210.
4. Veness M, Richards S. Role of modern radiotherapy in treating skin cancer. *Australas J Dermatol* 2003;44:159-166; quiz 167-168.
5. Rowe DE, Carroll RJ, Day CL Jr. Mohs surgery is the treatment of choice for recurrent (previously treated) basal cell carcinoma. *J Dermatol Surg Oncol* 1989;15:424-431.

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Actinic Granuloma Arising from the Pulsed Dye Laser-Treated Skin in a Patient with Capillary Malformation

Dong Ha Kim, Joong Sun Lee, Dae Won Koo, Kyung Eun Jung

Department of Dermatology, Eulji University School of Medicine, Daejeon, Korea

Dear Editor:

Actinic granuloma is a rare inflammatory skin disorder that presents in chronically sun-damaged skin with flesh-colored to erythematous papules that coalesce to

form centrifugally enlarging annular patterns¹. However, its pathogenesis remains to be elusive. It is thought that ultraviolet radiation, heat, viral diseases or other unknown factors transform the antigenicity of elastic fibers and induce cellular immune reactions^{1,2}.

A 49-year-old Korean woman had reddish patches on the right side of her face from birth. She was diagnosed with capillary malformation about 20 years ago. She has treated the skin lesion with a pulsed dye laser (PDL) and fractional laser > 10 times with 7 years. However, her skin lesion has not completely disappeared. On examination, the reddish patch had an uneven surface and firm texture (Fig. 1). These changes in the skin occurred 2 years ago. Histopathologically, there were some telangiectatic vessels and granulomatous inflammation in the superficial and mid-der-

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Corresponding author: Kyung Eun Jung, Department of Dermatology, Eulji University Hospital, Eulji University School of Medicine, 95 Dunsanse-ro, Seo-gu 302-799, Korea. Tel: 82-42-611-3037, Fax: 82-42-259-1111, E-mail: jke0224@eulji.ac.kr

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