pISSN 1013-9087 · eISSN 2005-3894
Ann Dermatol Vol. 30, No. 4, 2018 https://doi.org/10.5021/ad.2018.30.4.465

CASE REPORT

Mucinous Nevus

Min Young Lee, Ji Yeon Byun, Hae Young Choi, You Won Choi

Department of Dermatology, Ewha Womans University College of Medicine, Seoul, Korea

Mucinous nevus is an uncommon entity classified as either a cutaneous mucinosis or a connective tissue nevus. The condition presents as grouped papules and coalescent plaques growing in a unilateral or zosteriform manner. The key histopathological feature is a band-like deposition of mucin in the superficial dermis. A 34-year-old male presented with grouped gray-brown papules and confluent plaques exhibiting a zosteriform distribution on the right side of the lower back. The lesions had commenced in childhood. Histological examination revealed mucin deposition in the papillary dermis. Thus, we diagnosed a mucinous nevus. To date, only a few reports of such nevi have been reported in the literature. Therefore we report a rare case of mucinous nevus.
(Ann Dermatol 30(4) 465∼467, 2018)

-Keywords-
Cutaneous, Mucin, Nevus

INTRODUCTION

Mucinous nevus is a rare disorder classified as either a cutaneous mucinosis or a connective tissue nevus[1,2]. The condition was first described by Redondo Bellón et al.[1] in 1993. Clinically, asymptomatic grouped papules or plaques grow to form a verrucous or nevoid feature exhibiting a unilateral or zosteriform distribution[3,4]. The nevus usually develops on the trunk at birth or in early adulthood3,4. Histologically, the nevus is characterized by mucin deposits localized to the superficial dermis[3,4].
To the best of our knowledge, only 25 cases have been reported in the English-language literature[3,5-11] and only one case in the Korean literature[12]. Herein, we report an unusual case of mucinous nevus.

CASE REPORT

A previously healthy 34-year-old Korean male presented with asymptomatic grouped gray-brown papules and confluent plaques exhibiting a zosteriform distribution on his right lower back (Fig. 1). The skin lesions had commenced in childhood, gradually coalesced, and grew slowly. In our patient, pigmentary abnormalities as like freckles except for skin lesions of the right lower back were not observed. He had neither any past medical problem nor a family history of similar lesions and pigmentary abnormalities. He denied any trauma.
Histological examination revealed an acanthosis with elongated rete ridges and amorphous materials associated with loosely separated collagen fibers in the papillary dermis (Fig. 2A). The amorphous materials stained with alcian blue at pH 2.5 (Fig. 2B); this confirmed a mucin deposit limited to the papillary dermis. Verhoeff-van Gieson staining revealed that the numbers of elastic fibers in the papillary dermis were reduced in the regions of mucin deposition (Fig. 2C).
This clinicopathological analysis enabled us to diagnose a mucinous nevus. Our patient decided to allow us to observe the lesion; no treatment was performed.

DISCUSSION

Mucinous nevus is an uncommon entity initially described

Received July 14, 2017, Revised October 20, 2017, Accepted for publication October 27, 2017

Corresponding author: You Won Choi, Department of Dermatology, Ewha Womans University School of Medicine, 1071 Anyangcheon-ro, Yangcheon-gu, Seoul 07985, Korea. Tel: 82-2-2650-2665, Fax: 82-2-2652-6925, E-mail: uwon313@ewha.ac.kr
ORCID: https://orcid.org/0000-0001-6315-3889

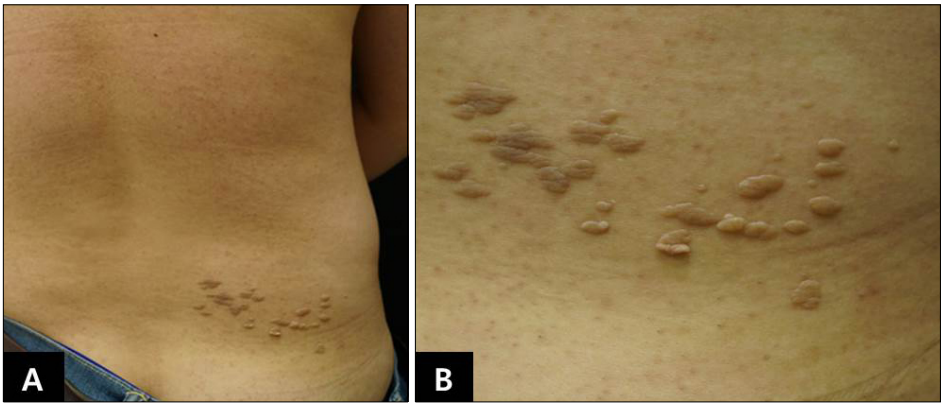

Fig. 1. (A) Multiple gray-brownish papules and confluent plaques with a zosteriform distribution on the right lower back. (B) Close-up view.

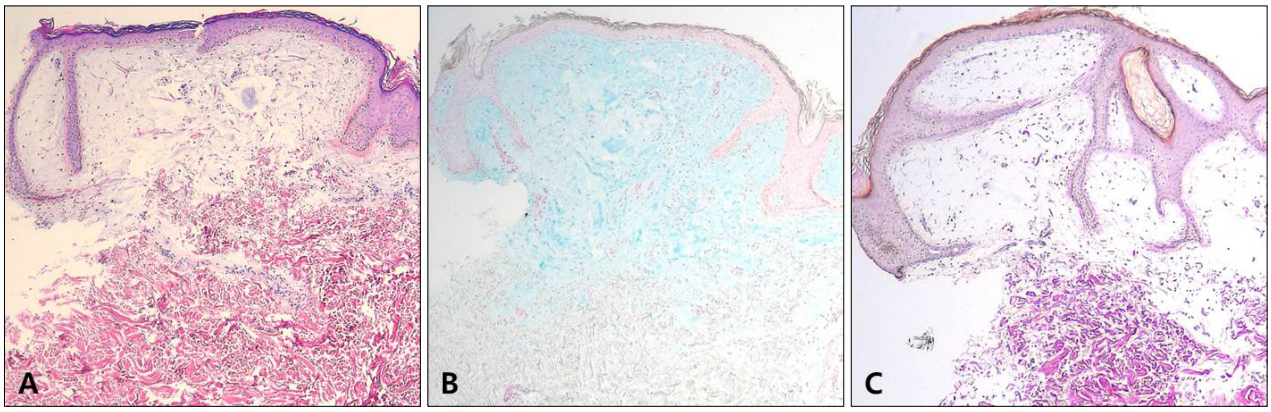

Fig. 2. (A) Amorphous materials and loosely separated collagen fibers in the papillary dermis and acanthosis with elongated rete ridges (H&E, ×40). (B) Positively stained bluish amorphous materials in the papillary dermis (Alcian blue at pH 2.5, ×40). (C) Reduced numbers of elastic fibers in the papillary dermis bearing mucin deposits (Verhoeff-van Gieson, ×40).

by Redondo Bellón et al.[1] in 1993 and classified as either a cutaneous mucinosis or a connective tissue nevus[1,2]. The cutaneous mucinoses are a heterogeneous group of diseases in which abnormal amounts of mucin are deposited in the skin[6]. Connective tissue nevi are hamartomas with unusual levels (excesses or deficiencies) of collagen, elastin, and/or proteoglycans[2].

The term "mucinous nevus" refers to the its nevoid appearance and the characteristic pattern of mucin deposits in the papillary dermis[2,6,13]. Clinically, mucinous nevi present as asymptomatic, multiple skin-colored to brownish papules or plaques; separate lesions coalesce and then grow to form a verrucous or nevoid feature with a unilateral or zosteriform pattern[3,4,6]. It usually develops at birth or in early adulthood[6,13]. The principal site is the trunk, including the back[3,6]. The male:female ratio is 5:1; the reason is not clear[5]. To date, there are two reports of familial mucinous nevus[6,13]. However, there was no report about the genetic abnormality as like mosaicism. Histologically, mucinous nevus is characterized by diffuse band-like mucin deposits in the uppermost portion of the dermis[1-4]. The mucin is thought to be composed of hyaluronic acid staining positively with alcian blue at pH 2.5 but not staining at pH 0.5[14,15]. The origin of the mucin remains unknown[14], but is presumed to be attributable to a primary metabolic process (such as overproduction) rather than a secondary catabolic process[2]. Mucinous nevi are divided into two histopathological types depending on whether epidermal changes are present; these are connective tissue nevi of the proteoglycan (CTNP) type and the combined epidermal-CTNP type[5]. The epidermis is normal, in the CTNP type but, in the combined epidermal-CTNP type, exhibits hyperkeratosis and acanthosis with elongation of the rete ridges[2]. Our case featured an epidermal change; thus, we diagnosed the combined epidermal-CTNP type of mucinous nevus.

Both an epidermal nevus and nevus lipomatosus superficialis exhibit nevoid features similar to those of a mucinous nevus. It is difficult, therefore, to clinically distinguish among the conditions. Histological data are necessary. Histologically, an epidermal nevus and nevus lipomatosus superficialis can be distinguished from a mu-

cinous nevus; only the latter exhibits mucin deposits in the papillary dermis.

However, such mucin deposition is also observed in cutaneous mucinosis of infancy, but is very superficial and appears to be hugged by the epidermis[5]. Clinically, cutaneous mucinosis of infancy presents as scattered small papules unlike mucinous nevus.

Mucinous nevi do not require treatment (except for cosmetic purposes); the nevi are benign[3]. Surgical excision, scalpel dermabrasion, and carbon dioxide laser treatment are possible[5]. Surgical excision is not indicated if several discrete lesions are evident[5]. Mucinous nevus of the CTNP type was treated via scalpel dermabrasion, but scarring developed 1 year later[16]. There is one report of mucinous nevus of the combined epidermal-CTNP type which did not recur after carbon dioxide laser vaporization[5]. Our patient did not voice any cosmetic concern; thus, we decided to simply observe the lesions.

To the best of our knowledge, only 25 cases of mucinous nevi have been reported in the English-language literature[3,5-11] and only one in the Korean literature[12]. The principal location is the trunk including the back. Approximately 80% of all cases were reported in males and about 30% of all cases present at birth.

Herein, we report a rare case of mucinous nevus of the combined epidermal-CTNP type.

CONFLICT OF INTEREST

The authors have nothing to disclose.

REFERENCES

1. Redondo Bellón P, Vázquez-Doval J, Idoate M, Quintanilla E. Mucinous nevus. J Am Acad Dermatol 1993;28:797-798.
2. Rongioletti F, Rebora A. Mucinous nevus. Arch Dermatol 1996 ;132:1522-1523.
3. Cobos G, Braunstein I, Abuabara K, Chu EY, James W. Mucinous nevus: report of a case and review of the literature. JAMA Dermatol 2014;150:1018-1019.
4. Tardío JC, Granados R. The cellular component of the mucinous nevus consists of CD34-positive fibroblasts. J Cutan Pathol 2010;37:1019-1020.
5. Chi CC, Wang SH, Lin PY. Combined epidermal-connective tissue nevus of proteoglycan (a type of mucinous nevus): a case report and literature review. J Cutan Pathol 2009; 36:808-811.
6. Perez-Crespo M, Lopez-Navarro N, Betlloch I, Herrera E, Niveiro M, Gallego E. Acquired and familial mucinous nevus. Int J Dermatol 2011;50:1283-1285.
7. Vukicevic JS, Milobratovic DJ, Milinkovic MV, Bogdanovic Z. Extensive, adulthood inflammatory linear verrucous epidermal nevus associated with mucinous nevus. Indian J Dermatol Venereol Leprol 2011;77:607-608.
8. Song BH, Park S, Park EJ, Kwon IH, Kim KH, Kim KJ. Mucinous nevus with fat: an unusual case report and literature review. Am J Dermatopathol 2012;34:e146-e148.
9. Kim EJ, Jo SJ, Cho KH. A case of mucinous nevus clinically mimicking nevus lipomatosus superficialis. Ann Dermatol 2014;26:549-550.
10. Sasaki T, Yoneda K, Yokoi I, Moriue J, Demitsu T, Kubota Y. Comorbidity of dermatofibromas and mucinous nevi. Int J Dermatol 2016;55:e53-e55.
11. Walter Lepage A, Frouin É, Junca A, Cante V, Monégier du Sorbier C, Hulin-Desquiret MC, et al. [Mucinous nevus of late onset]. Ann Dermatol Venereol 2016;143:547-553. French.
12. Joo HJ, Yoo HJ, Kim JE, Kang H. A case of congenital mucinous nevus on the back. Korean J Dermatol 2014;52: 892-894.
13. Chen CW, Tsai TF, Chen YF, Hung CM. Familial mucinous nevus. Pediatr Dermatol 2008;25:288-289.
14. Lim JH, Cho SH, Kim HO, Kim CW, Park YM. Mucinous naevus with atypical features. Br J Dermatol 2003;148: 1064-1066.
15. Brakman M, Starink TM, Tafelkruyer J, Bos JD. Linear connective tissue naevus of the proteoglycan type ('naevus mucinosus'). Br J Dermatol 1994;131:368-370.
16. Yokogawa M, Kamakura T, Ishiguro H, Ikeda M, Kodama H. Mucinous nevus. J Dermatol 2005;32:30-33.