

Case Report

Digital mucous cysts presenting as numerous translucent nodules in the right fifth finger

Chian-Yaw Hwang, Yu-Lin Huang, Han-Nan Liu*

Department of Dermatology, Taipei Veterans General Hospital, Taipei, Taiwan, ROC

Received April 22, 2010; accepted August 14, 2010

Abstract

Digital mucous cysts is a common benign skin disease usually present as solitary or a few soft, translucent to slightly bluish nodules. Here, we report the case of a 90-year-old male patient with numerous translucent nodules on his right fifth finger. Although he had one of them drained, they recurred afterward. Skin biopsy was done on the ventral side of the fifth distal phalange, and clear viscous fluid was noted during the procedure. The surrounding bulging nodules became flattened after milking. By hematoxylin and eosin stain, the section showed a cystic lesion in the dermis. The cyst wall was devoid of a true lining, consisting of eosinophilic, compact, slightly hyalinized collagen. In the cystic space, there was only a small amount of mucin. He was therefore diagnosed with multiple digital mucous cysts. We treated him with intralesional steroid injection and compressive dressing. Two weeks later, however, the skin lesions recurred despite the treatments.

Copyright © 2011 Elsevier Taiwan LLC and the Chinese Medical Association. All rights reserved.

Keywords: Digital mucous cyst; Digital myxoid cyst; Translucent nodules

1. Introduction

Digital mucous cysts (DMCs) are common benign skin lesions possessing slight female predominance.¹ They usually present as solitary or a few soft, translucent to slightly bluish nodules.^{2,3} Most are located on the dorsal aspect of the distal phalanges.⁴ When involving the nail matrix, DMCs can cause cosmetic problems, pain, and nail dystrophy.^{3,5} The thumb, index finger, and middle finger are the most frequently affected sites.^{5,6} In 2006, Connolly et al. reviewed 10 studies reporting multiple DMCs, one of the cases bearing as many as eight cysts.¹ Our case is unusual because that the number of cysts reached 17 and they developed on a single digit.

2. Case report

A 90-year-old male patient presented to our clinic with numerous tense semitranslucent nodules on the right fifth finger

off and on for about 3 years (Fig. 1). According to the patient, these lesions grew fast and could reach as large as 2.0 cm in diameter. The number of lesions also increased gradually, ending up at least 17 in total on the day of his visit. The lesions became so distended that he had to visit a local clinic to have one drained. During the patient's history, he had had two lesions excised 3 years before without clear memory of the diagnosis. However, lesions recurred shortly after that surgery and had become even more prominent in the recent 2 months.

Skin biopsy was done on the ventral side of the fifth distal phalange, and clear viscous fluid was noted during the procedure. The surrounding bulging nodules becoming flattened after milking suggested that connecting channels may exist among the lesions. By hematoxylin and eosin stain, the section showed a cystic lesion in the dermis (Fig. 2). The cyst wall was devoid of a true lining, consisting of eosinophilic, compact, slightly hyalinized collagen. In the cystic space, there was only a small amount of mucin (Fig. 3).

3. Discussion

The exact etiology of DMCs is not fully elucidated. Some studies indicate it being a degeneration process.⁷ Osteoarthritis

* Corresponding author. Dr. Han-Nan Liu, Department of Dermatology, Taipei Veterans General Hospital, 201, Section 2, Shih-Pai Road, Taipei 112, Taiwan, ROC.

E-mail address: dhliu427@ms55.hinet.net (H.-N. Liu).



Fig. 1. Multiple translucent nodules on the right fifth finger.

may play a role because many patients with DMCs were also found to have osteoarthritis of the nearby joints.¹ Inflammation of the joint causing weakening of the surrounding soft tissue in combination with the increase of the joint fluid could make extrusion of the joint fluid easier. However, this patient did not have any symptoms related to arthritis such as arthralgia or swelling of the joints. On the other hand, DMCs may be related to increased intraarticular pressure of the joints. Two occupation-related cases have been reported. One was a cashier whose work required repeated bending and straightening of her fingers,⁸ and the other was a factory worker whose work was pushing a garment into a mold.¹ Our patient's skin lesions developed 3 years previous to this visit, long after he retired from the job as a policeman. Therefore the development of skin lesions was very unlikely occupation-related.

The treatment options for DMCs include incision and drainage, intralesional steroid injection, cryotherapy, carbon dioxide laser, electrocoagulation, and several means of

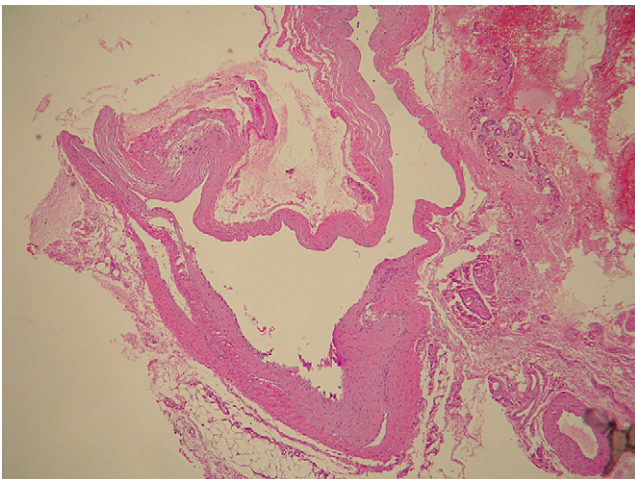


Fig. 2. A cystic lesion in the dermis. The cyst wall was consisted of hyalinized collagen without a true lining (hematoxylin and eosin, 100×).

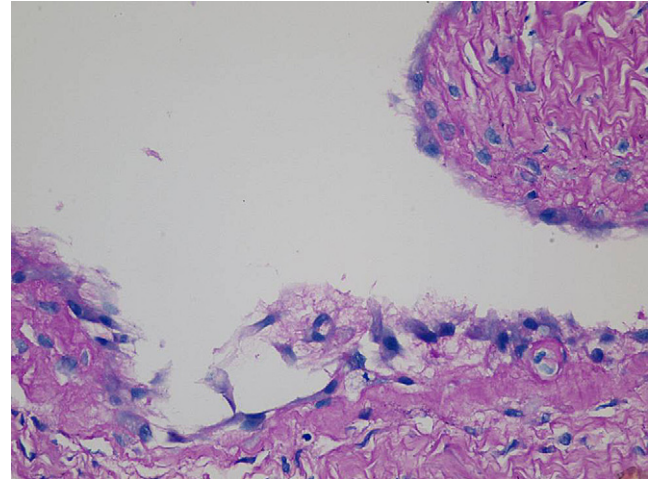


Fig. 3. Because most of the content was lost during the fixation, only small amount of mucin was demonstrated by periodic acid-Schiff stain (periodic acid-Schiff stain, 100×).

surgical treatment.^{3,7,9} But the recurrence rate is high, even in the situation of excision.⁴ Ligation of DMCs in the origin at the joint capsule with the assistance of dye injection produces a satisfactory result.⁷ Utilizing bilobed rotational flap also yields high success rate.⁴ However, in our patient, the overwhelming number of the cysts would render these approaches impractical. Destructive treatments such as total excision or cryotherapy would possibly result in functional loss of the finger. We finally opted to use intralesional steroid injection and compressive dressing. Two weeks later, however, the skin lesions recurred despite the treatments.

References

1. Connolly M, de Berker DA. Multiple myxoid cysts secondary to occupation. *Clin Exp Dermatol* 2006;**31**:404–6.
2. Hernandez-Lugo AM, Dominguez-Cherit J, Vega-Memije ME. Digital mucoid cyst: the ganglion type. *Int J Dermatol* 1999;**38**:533–5.
3. Karrer S, Hohenleutner U, Szeimies RM, Landthaler M. Treatment of digital mucous cysts with a carbon dioxide laser. *Acta Derm Venereol* 1999;**79**:224–5.
4. Blume PA, Moore JC, Novicki DC. Digital mucoid cyst excision by using the bilobed flap technique and arthroplastic resection. *J Foot Ankle Surg* 2005;**44**:44–8.
5. Drape JL, Idy-Peretti I, Goettmann S, Salon A, Abimelec P, Guerin-Surville H, et al. MR imaging of digital mucoid cysts. *Radiology* 1996;**200**:531–6.
6. Butler DF, Davis G, Greene JF. Multiple mucinous (myxoid) cysts of a single finger. *J Am Acad Dermatol* 2005;**53**:914–6.
7. de Berker D, Lawrence C. Ganglion of the distal interphalangeal joint (myxoid cyst): therapy by identification and repair of the leak of joint fluid. *Arch Dermatol* 2001;**137**:607–10.
8. Pietrzak A, Wojnowska D, Chodorowska G, Dybiec E, Gorzelak M, Urban J. Multiple myxoid cysts of both hands in a cashier – a case report. *Ann Univ Mariae Curie Sklodowska Med* 2003;**58**:478–81.
9. Minami S, Nakagawa N, Ito T, Sadanobu N, Lin Y, Natsuaki M, et al. A simple and effective technique for the cryotherapy of digital mucous cysts. *Dermatol Surg* 2007;**33**:1280–2.