

## Cutaneous Leiomyoma of the Nipple in a Male

Jeong Joon Oh, M.D., Jae Hong Park, M.D., Dong Youn Lee, M.D., Eil Soo Lee, M.D.

*Department of Dermatology, Samsung Medical Center, Sungkyunkwan University  
School of Medicine, Seoul, Korea*

Cutaneous leiomyoma is a benign tumor originating from smooth muscle fibers which are derived from arrector pili muscle, media of blood vessels and dartoic muscle of scrotum, vulvar, or nipple. It is classified into 3 types according to the site of origin, namely pilar leiomyoma, angioleiomyoma and genital leiomyoma. Leiomyoma of the nipple is the less frequent type of cutaneous leiomyoma. We report a case of cutaneous leiomyoma on the nipple in a 53-year-old man. (*Ann Dermatol* 16(1) 16~18, 2004)

*Key Words:* Genital leiomyoma, Nipple

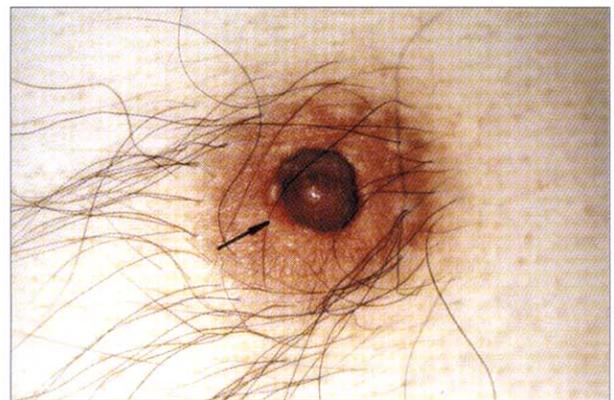
### INTRODUCTION

Cutaneous leiomyoma is a benign tumor of smooth-muscle fibers. It arises from the arrector pili muscle (pilar leiomyoma), media of blood vessels (angioleiomyoma) and dartoic muscle of scrotum, vulva, or nipple (genital leiomyoma)<sup>1</sup>. Genital leiomyoma is uncommon. It includes leiomyomas of nipple, scrotum and vulva. Among these rare tumors, leiomyoma of the nipple shows the lowest incidence<sup>2,3</sup>. We report a Korean male with cutaneous leiomyoma on his right nipple.

### CASE

A healthy 53-year-old man was admitted to Samsung Medical Center in May 2001, complaining of a mass in his right nipple. It had been present for 1 year. The mass was not painful, and not associated with nipple discharge. On physical examination, there was a well-demarcated 1.0 × 0.3

cm-sized erythematous firm tender papule on lower part of right nipple (Fig. 1). The axillary lymph-node was negative. The patient underwent punch biopsy of the tumor. Microscopic examination of sections stained with hematoxylin and eosin (H&E) showed nonencapsulated tumor composed of interlacing bundles of fusiform cells with blunt-ended nuclei. Perinuclear vacuolizations were seen on cross sections (Fig. 2A). Neither mitosis nor hyperchromatic nuclei was found. Fascicles of tumor expressed desmin and smooth muscle actin immunohistochemically (Fig. 2B). The diagnosis of cutaneous leiomyoma of nipple was made. He had tumor excision in the plastic surgery department and he has been under close observation without any evidence of recurrence for 1 year.



**Fig. 1.** A well-demarcated 1.0 × 0.3 cm-sized erythematous firm papule on lower part of the nipple.

Received June 17, 2003

Accepted for publication December 18, 2003

**Reprint request to:** Eil Soo Lee, M.D., Department of Dermatology, Samsung Medical Center, Sungkyunkwan University School of Medicine, 50 Ilwon-dong, Kangnam-gu, Seoul 135-710, Korea

Tel. 82-2-3410-3549, Fax: 82-2-3410-3869

E-mail. eslee@smc.samsung.co.kr

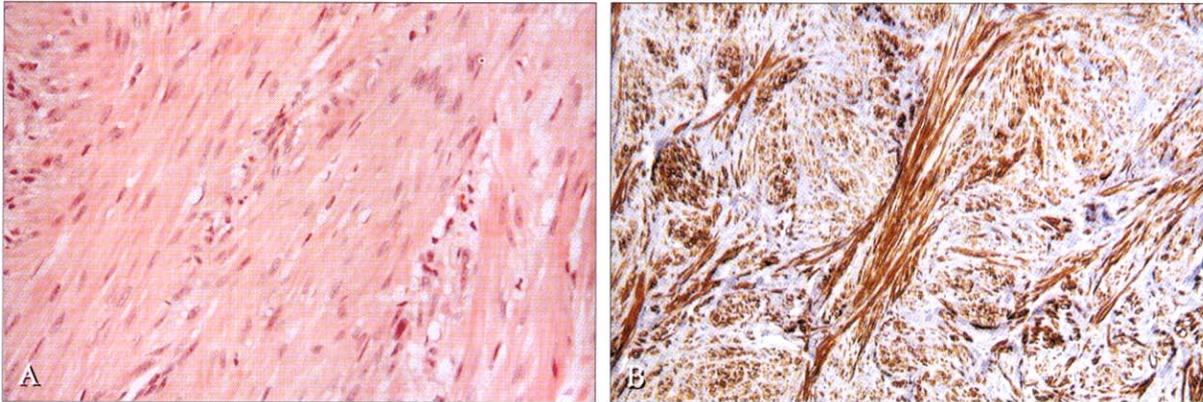


Fig. 2. A. Dermal tumor composed of irregularly arranged interlacing bundles of spindle-shaped cells with a blunt-ended nuclei (H & E,  $\times 400$ ). B. Tumor cells show strong positivity for smooth muscle actin (Smooth muscle actin stain,  $\times 200$ ).

## DISCUSSION

Leiomyoma of nipple is rare since the first description of a leiomyoma of the nipple by Virchow in 1854<sup>4</sup>. It develops from the muscularis mamillae, areolae, and smooth-muscles present in the dermis of the nipple<sup>5</sup>. Clinically, it may appear as a single, small, firm, and dermal papule that enlarges the nipple and seems to be more frequent in women<sup>6,7</sup>. It was reported that leiomyomas of nipple developed in younger ages than other genital leiomyomas<sup>8</sup>. It rarely causes significant pain. Nevertheless, occasional recurrent attacks of severe pain, arising spontaneously, after applying pressure locally, or after exposure to cold, have been reported<sup>5</sup>. The patients usually seek medical advice, after local pain or asymptomatic enlargement of the involved nipple is noted<sup>2,5-7</sup>. Newman & Fletcher reported that leiomyomas of the nipple differed from the vulvar and scrotal tumors in respect of more possibilities of marked pain and tenderness<sup>8</sup>. Our case presented tenderness.

Genital leiomyomas are similar in histologic appearance to pilar leiomyomas. They are poorly demarcated and are composed of interlacing bundles of smooth muscle fibers with which varying amounts of collagen bundles are intermingled. The muscle fibers composing the smooth muscle bundles are generally straight and contain centrally located, thin, very long, blunted edged nuclei. Smooth muscle bundles usually show slight vacuolization, especially in cross sections, as a result of a perinuclear clear

zone<sup>1</sup>. Newman & Fletcher reported that leiomyomas of nipple had a different pattern to either the vulvar or scrotal lesions. In cases of nipple, the cells were arranged in interdigitating fascicles which ramified between dermal collagen bundles in an irregular and ill-defined manner and showed more common stromal fibrosis<sup>8</sup>. The immunohistochemical pattern exhibits a characteristic pattern for smooth muscle cell of the tumor<sup>1</sup>.

The differential diagnosis of tumors seen frequently in the nipple includes papilloma of the nipple, adenoma and lymphadenosis benigna cutis. Leiomyomas of nipple are of clinical importance because they can easily be confused with breast cancer, especially Paget's disease. In contrast to Paget's disease, leiomyoma may show characteristic pain which may be due to the contraction of smooth muscle of the tumor without inflammatory signs. A histopathologic examination will rule out these diagnoses. Histologically, the most important differential diagnosis is leiomyosarcoma with typical signs of malignancy including infiltration, anaplasia and mitosis<sup>2</sup>.

Genital leiomyoma of the nipple is a benign neoplasm without malignant potential. Since recurrence of the lesion has been reported several years after simple excision, a complete surgical removal is advisable<sup>2,6</sup>. Because of the permanent loss of nipple, leiomyoma of nipple may be difficult to remove completely. Complete removal of nipple is worth consideration in case of recurrent, annoying and symptomatic lesion.

**REFERENCES**

1. Ragsdale BD: Tumors of fatty, muscular, and osseous tissue. In: Elder D, Elenitsas R, Jaworsky C, Johnson B Jr. (eds): *Lever's histopathology of the skin*, 8th ed., Lippincott-Raven, Philadelphia, 1997, pp955-959.
2. Haier J, Haensch W, Schoen M: Leiomyoma as a rare differential diagnosis of Paget's disease of the nipple. *Acta Obstet Gynecol Scand* 1997;76: 490-491.
3. Ahn SK, Haam I, Hann SK, et al: Cutaneous leiomyoma- A clinical and histopathological study. *Kor J Dermatol* 1991;29:181-186.
4. Virchow R: Uber cavernose (erectile) Geschwulste und Telangiectasien. *Virchows Arch Pathol* 1854; 6:525-5554. (Cited from reference No. 2)
5. Naseimento AG, Rosen PP, Karas M, et al: Leiomyoma of the nipple. *Am J Surg Pathol* 1979; 3:151-154.
6. Pujol RM, Fernandez MT: A solitary papule on the nipple. *Arch Dermatol* 1991;127:573-576.
7. Song MG, Lee ES: A case of leiomyoma cutis on the nipple. *Kor J Dermatol* 2001;39:852-854.
8. Newman PL, Fletcher CDM: Smooth muscle tumors of the external genitalia: clinicopathological analysis of a series. *Histopathology* 1991;18:523-529.