

# Trichofolliculoma in the Auricle

Ho Young Lee, MD<sup>1</sup>, Eun Kyung Kim, MD, PhD<sup>2</sup>,  
Hyun Seung Choi, MD<sup>3</sup>, and Junhui Jeong, MD, PhD<sup>3</sup> 

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## Significance Statement

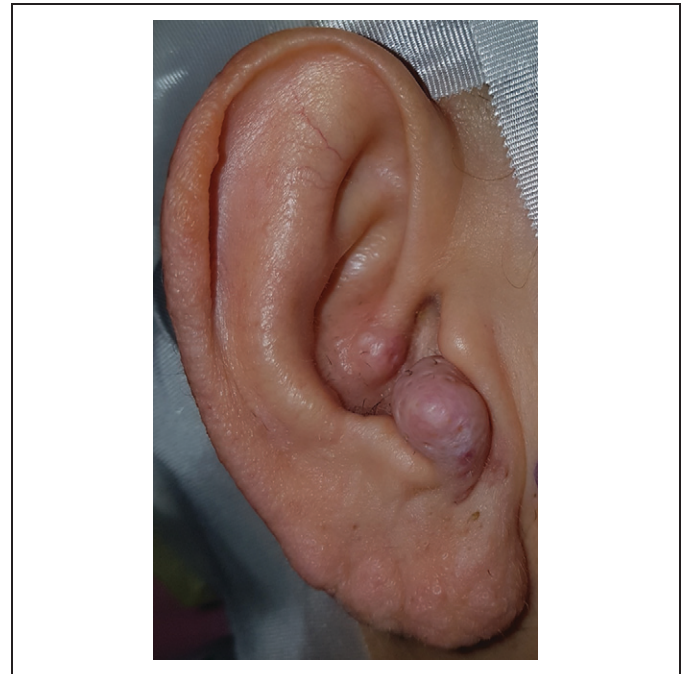
Trichofolliculoma is a rare adnexal hamartomatous follicular tumor arising from the hair follicles. It should be considered in cases with a central pitted nodular mass containing a hair and with velli around the central cyst. Histopathological diagnosis is mandatory after excision, and long-term follow-up may be necessary in cases with perineural invasion.

A 60-year-old woman consulted our otorhinolaryngology clinic due to the presence of a mass in the right auricle for several years. On physical examination, a soft, dome-shaped, nodular non-tender mass was observed in the antitragus of the right auricle. The mass showed a central pit and multiple velli (Figure 1). On neck computed tomography, a slightly enhanced soft tissue density mass measuring 2 cm × 1.5 cm was observed in the right auricle (Figure 2). Based on an initial diagnosis of benign tumor, surgical excision was planned at the patient's request for cosmetic reasons.

In surgery under local anesthesia, the mass showed no invasion into adjacent tissues and was excised completely. Histopathological analysis indicated trichofolliculoma. The lesion was characterized by several cystically dilated hair follicles containing keratinous material and velli. Several smaller secondary, tertiary, and abortive follicles branched off the large, central dilated follicle and radiated into the surrounding dermis (Figure 3). Eleven months after surgery, the wound has healed well and there has been no recurrence.

Trichofolliculoma is a rare adnexal hamartomatous follicular tumor arising from the hair follicles. It usually manifests as a solitary lesion in the head and neck region, especially the face and scalp, in adults.<sup>1–4</sup> Trichofolliculoma is rare in the auricle and external auditory canal; few such cases have been reported to date.<sup>2–4</sup>

First reported by Miescher in 1944, trichofolliculoma is characterized by dome-shaped, skin-colored nodular or papular lesions with a central pore through which an immature hair protrudes.<sup>3,4</sup> Trichofolliculoma can occur at any age but is mostly seen in adults.<sup>3–5</sup> Trichofolliculoma has mostly been reported in the face and scalp, although rare cases in the external auditory canal, intranasal area, genital area, lip, vulva, and upper



**Figure 1.** A soft, dome-shaped, nodular non-tender mass with a central pit and multiple velli is observed in the antitragus of the right auricle.

<sup>1</sup> Department of Otorhinolaryngology, Yonsei University College of Medicine, Seoul, Korea

<sup>2</sup> Department of Pathology, National Health Insurance Service Ilsan Hospital, Goyang, Korea

<sup>3</sup> Department of Otorhinolaryngology, National Health Insurance Service Ilsan Hospital, Goyang, Korea

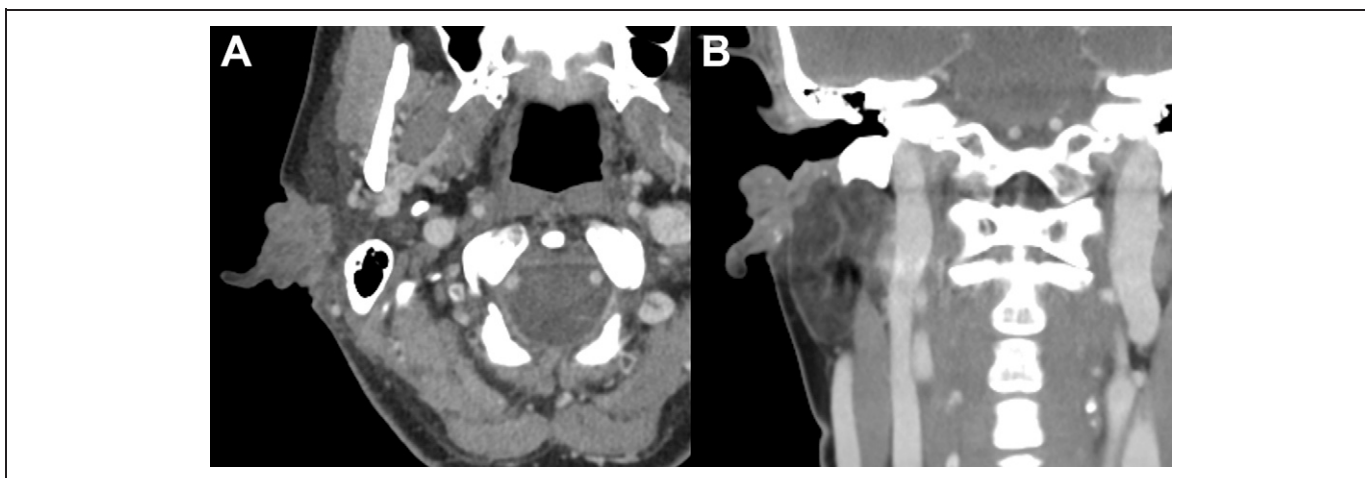
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### Corresponding Author:

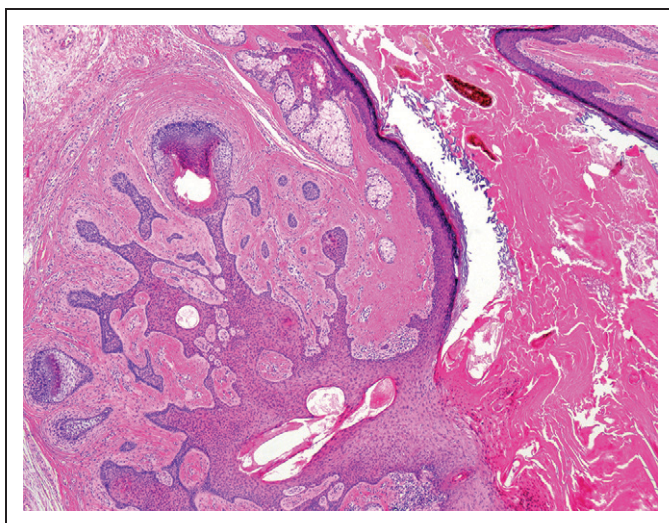
Junhui Jeong, MD, PhD, Department of Otorhinolaryngology, National Health Insurance Service Ilsan Hospital, Goyang, Korea.

Email: jeongj@nhimc.or.kr





**Figure 2.** Neck computed tomography reveals a slightly enhanced soft tissue density mass measuring 2 cm × 1.5 cm in the right auricle. (A) Axial view, (B) coronal view.



**Figure 3.** Histopathological image shows several small follicles varying in maturity radiating from the large central follicle and sebaceous glands (hematoxylin-eosin, ×40).

extremities have also been reported.<sup>2,4</sup> To our knowledge, only 5 cases of trichofolliculoma in the external auditory canal or auricle have been reported to date in the English literature.

The etiology of trichofolliculoma is uncertain. However, previous trauma at the tumor site has been implicated, and trichofolliculoma is thought to arise due to abortive differentiation of pluripotent skin cells toward hair follicles.<sup>4,5</sup> Histopathologically, the cystic follicle is lined by stratified squamous epithelium and communicates with the overlying skin. Secondary small follicles are found around the central cystic follicle.<sup>2,4,6</sup>

Trichofolliculoma is usually asymptomatic,<sup>3,4</sup> so treatment is usually not necessary.<sup>4,5</sup> However, trichofolliculoma may cause disfigurement and the treatment of choice is surgical excision. The prognosis is good and recurrence after excision has been reported only rarely.<sup>4,5</sup> Trichofolliculoma is considered a benign tumor, but one case of perineural invasion of the

cheek was reported by Stern and Stout in 1979.<sup>1,3-5</sup> Although Stern and Stout mentioned that perineural invasion in itself does not indicate malignancy, they emphasized long-term follow-up in cases with perineural invasion.<sup>1</sup>

The differential diagnosis of trichofolliculoma includes hair follicle nevus, trichoepithelioma, accessory tragus, sebaceous cyst, epidermal cyst, molluscum contagiosum, dilated pore of Winer, pilar sheath acanthoma, and basal cell carcinoma.<sup>3,4</sup> Trichofolliculoma is intermediate in differentiation between hair follicle nevus and trichoepithelioma; the former is simple hyperplasia of the hair follicle, while the latter lacks a mature hair follicle.<sup>1,2,4</sup> If hair is not present in trichofolliculoma, it may be misdiagnosed as a sebaceous cyst, melanocytic nevus, molluscum contagiosum, or basal cell carcinoma.<sup>4</sup>

Hair follicle nevus and accessory tragus are the most difficult conditions to differentiate from trichofolliculoma histologically.<sup>4</sup> They have similar characteristics to trichofolliculoma with varying amounts of hair follicles and connective tissue in the subcutaneous fat. Trichofolliculoma shows a central cyst and radiating hair follicles. Accessory tragus is composed not only of the pilar complex but also of cutaneous appendages. In most accessory tragi, there is a central cartilage. If the lesion is located in a preauricular area at birth, or contains a cartilaginous portion, it could be an accessory tragus. In contrast, if a lesion without radiating hair follicles and a central cyst is located in an atypical area for accessory tragus and lacks cartilage, it could be a hair follicle nevus.<sup>4,6</sup>

Trichofolliculoma should be considered in cases with a central pitted nodular mass containing a hair and with velli around the central cyst. Histopathological diagnosis is mandatory after excision, and long-term follow-up may be necessary in cases with evidence of perineural invasion on microscopic examination.

#### Authors' Note

The Institutional Review Board of the National Health Insurance Service Ilsan Hospital exempted the review of this study (NHIMC 2020-09-026).

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### ORCID iD

Junhui Jeong  <https://orcid.org/0000-0002-1592-261X>

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