INTRODUCTION

Leiomyoma is a benign tumor arising from smooth muscle cells. They are commonly found in the uterus, skin, and gastrointestinal tract. However, it is rare in the head and neck area. Especially, only 3% of leiomyomas in the head and neck area occur in the nasal cavity. Rhinologists need to know leiomyoma as a differential diagnosis of the tumors in the nasal cavity. Herein we present two cases of angioleiomyoma in the nasal cavity and review the literature.

KEY WORDS: Leiomyoma · Nasal Cavity · Nasal Tumor · Nasal Neoplasms · Nose Diseases.

ABSTRACT

Leiomyoma is a benign tumor arising from smooth muscle. They are rarely found in the head and neck area. 

Case One

A 45-year old woman visited Department of Otorhinolaryngology-Head and Neck Surgery due to one year history of frequent left epistaxis. She had no specific past history and family history. Nasal endoscopic examination showed a 1x1 cm sized reddish protruding mass in left nasal cavity. The mass was originated from left inferior turbinate, and extended to posterior nasal cavity. CT of paranasal sinuses showed homogeneous opacity indistinguishable from left inferior turbinate (Fig. 1). There were no sign of bony erosion and abnormal finding in the paranasal sinuses. We suspected benign masses such as angiofibroma, pleomorphic adenoma or hemangioma. Under local anesthesia, the mass was excised including periosteum and surrounding soft tissue endoscopically. The mass was moderately hard and there was no invasion to surround-

Fig. 1. CT of paranasal sinuses shows soft tissue density mass on left inferior turbinate (A: axial, B: coronal).

Fig. 2. Pathologic examination shows thick-walled blood vessels and smooth muscle cells [H-E stain, x 200] (A). On immunohistochemical examination, positive immunostaining for α-smooth muscle actin was seen (x 200) (B).
ing structures. During the operation, there was minimal bleeding. Histopathologic examination of the specimen revealed positive immunostaining for α-smooth muscle actin consistent with leiomyoma (Fig. 2). The patient is currently free of disease after 10 years of follow-up.

Case Two
A 70-year old woman was referred for evaluation of an asymptomatic right nasal cavity mass. She had no history of trauma and nasal surgery. She denied alcohol and tobacco use, epistaxis, pain, crusting, or airway obstruction. She had no chronic medical conditions and presented in her usual state of good health. Physical examination demonstrated an easy-touch bleeding, fleshy mucosal mass arising from the right nasal septum (Fig. 3). The remainder of her head and neck examination was unremarkable. CT of paranasal sinuses revealed a 2.6x1.3 cm sized marked enhancing mass in right middle turbinate with extension to right ethmoid sinus (Fig. 4). According to the physical finding and CT finding, we suspected hemangioma of nasal septum. Under general anesthesia, she underwent an endoscopic excisional biopsy of the mass. The mass was originated from the nasal septum and also extended to posterior ethmoid cells via superior meatus. The mass was moderately hard, not adherent to surrounding structures except nasal septum. It was removed with periosteum of the nasal septum. There was not much bleeding during the operation. Histopathologic examination of the specimen revealed positive immunostaining for α-smooth muscle actin consistent with leiomyoma (Fig. 5). She had an uneventful postoperative course and has been free of disease for two years.

DISCUSSION
Leiomyomas most commonly occur in the female genital tract. It is rare in the head and neck area. Especially, only 3% of leiomyomas in the head and neck area occur in the nasal cavity. In Korea, including this report, only one case of leiomyoma arised from inferior turbinate and three cases of leiomyoma arised from nasal septum have been reported. This rarity is due to the insufficient distribution of smooth muscle in the nasal cavity, except for the vessels’ walls. In the nasal cavity, smooth muscle tissues are observed in the blood vessels and the hair erecting muscles at the anterior vestibule. There are three hypotheses about the origin of smooth muscle tumors in the nasal cavity, which are aberrant undifferentiated mesenchyma, smooth muscle elements in blood vessel walls or both.

According to the classification of the World Health Organization, leiomyomas are classified into three types: leiomyoma; angioleiomyoma; epitheloid leiomyoma. Angioleiomyoma is the most common type of the intra-nasal leiomyoma. Smooth muscle is scarce in the nasal cavity. However, it is rich in blood vessels. In Korea, there have been 9 cases of nasal leiomyomas of which 7 cases were angioleiomyoma and 2 cases did not described about subtypes. In our two cases, both were angioleiomyoma. Pathological examination revealed both vascular and smooth muscle components were present in both cases. The angioleiomyoma is characterized by well defined proliferation of mesenchymal tapered cells with eosinophilic cytoplasm and elongated basophilic nuclei that show tapered endings (cigar-like shape nuclei). The vascular spaces which are lined by a single layer of endothelial cells are constant features in angioleiomyoma.

According to recent studies, the most common location of the angioleiomyoma in the nasal cavity is the inferior turbinate. Clinical features of the angioleiomyoma in the nasal cavity are epistaxis, headache, facial pain and nas
obstruction. Among them, epistaxis is the most frequent initial complaint. In a similar fashion, our first patient complained epistaxis as an initial symptom.

Various modalities can be performed for the diagnosis of intranasal angioleiomyoma. However, fine-needle aspiration cytology, sonography, CT and MRI show no characteristic findings for preoperative diagnosis. The only way to make the diagnosis is surgical excision with histologic examination. In our cases, angioleiomyomas were confirmed with conventional hematoxylin and eosin staining with special stain for SMA.

Differential diagnosis of the intranasal angioleiomyoma includes hemangioma, angiofibroma, fibromyoma, angio-myolipoma, leiomyoblastoma and vascular leiomyo-sarcoma.

The treatment of choice is surgical excision. Preoperative tumor embolization can be performed to minimize perioperative bleeding. In our cases, however, the tumors were completely removed without significant bleeding. Recurrence is very rare in angioleiomyoma and our two patients are currently doing well postoperatively with no evidence of recurrence.

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REFERENCES