Case Report
online © ML Comm
Korean J Otorhinolaryngol-Head Neck Surg 2015;58(12):870-3 / pISSN 2092-5859 / eISSN 2092-6529
http://dx.doi.org/10.3342/kjorl-hns.2015.58.12.870

A Case of Removal of Medial Maxillary Intraosseous Hemangioma through an Intranasal Endoscopic Prelacrimal Recess Approach

Hyeong-Joo Lee[1], Yeon-Hee Joo[1], Sea-Young Jeon[1,2], and Sang-Wook Kim[1,2]

[1]Department of Otorhinolaryngology, Gyeongsang National University Hospital, Jinju; and
[2]Institute of Health Sciences, Gyeongsang National University, Jinju, Korea

내시경하 전누골와 접근법을 통한 전내측 상악골 골내혈관종의 제거 1예

이형주[1] · 주연희[1] · 전시영[1,2] · 김상욱[1,2]

경상대학교병원 이비인후과학교실,[1] 경상대학교 건강과학연구원[2]

Received March 24, 2015
Revised June 5, 2015
Accepted June 16, 2015
Address for correspondence
Sang-Wook Kim, MD, PhD
Department of Otorhinolaryngology,
Gyeongsang National
University Hospital,
79 Gangnam-ro,
Jinju 52727, Korea
Tel +82-55-750-8177
Fax +82-55-759-0613
E-mail astroflower77@hanmail.net

The intranasal endoscopic prelacrimal recess approach (PLRA) is a novel technique that was recently introduced for the management of maxillary sinus lesions. We utilized this approach for the surgical resection of a medial maxillary bony lesion; gross total resection was achieved without significant complications. The PLRA appears to be an effective and safe technique for the treatment of bony lesions of the maxilla as well as the maxillary sinus, particularly those confined to the medial maxillary wall.

Korean J Otorhinolaryngol-Head Neck Surg 2015;58(12):870-3

Key Words Endoscopic · Hemangioma · Intraosseous · Maxilla · Prelacrimal recess.

Introduction

Currently, most sinonasal lesions are treated using a transnasal endoscopic approach, but some areas of the maxillary sinus, such as the prelacrimal recess, may not be visualized and accessible.[1)] To overcome these limitations, several surgical techniques have been used, such as the Caldwell-Luc procedure and endoscopic medial maxillectomy.[2,3)] The intranasal endoscopic prelacrimal recess approach (PLRA) is a novel technique to address maxillary sinus lesions.[4)] We have successfully applied this approach to manage a bony lesion of the maxilla.

Case

A 44-year-old female presented to the rhinology outpatient clinic for right medial orbital pain and discomfort as well as mild facial disfigurement that began several years ago. Medical records showed a previous diagnosis of maxillary fibrous dysplasia treated twice with partial resection via the Caldwell-Luc approach and an endoscopic endonasal approach, respectively. However, the symptoms did not resolve. One year following the second surgery, the patient reported that the lesion had grown larger. No abnormalities were identified by nasal endoscopy (Fig. 1), but a 2.5×1.5×1.0 cm expansile, well-defined bony lesion of the medial wall of the maxilla was found in a contrast-nonenhanced computed tomography (CT) scan (Fig. 2). The right nasolacrimal duct appeared to be compressed by the lesion, but patency was maintained (Fig. 2A). The lesion was removed under general anaesthesia via the PLRA using 0° and 70° rigid endoscopes, as previously described.[4)] First, following local anaesthetic infiltration, a vertical incision was made 3 mm caudal to the anterior attach-

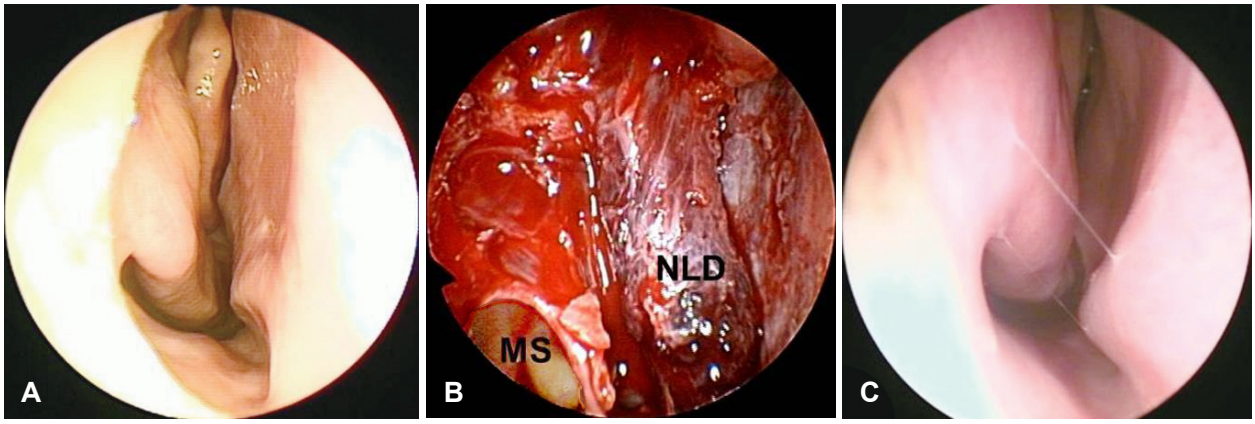

Fig. 1. Representative endoscopic photographs of the right nasal cavity taken pre-, intra-, and post-operatively (A, B, and C, respectively). The NLD and sac were identified and preserved during the operation (B). MS: maxillary sinus, NLD: nasolacrimal duct.

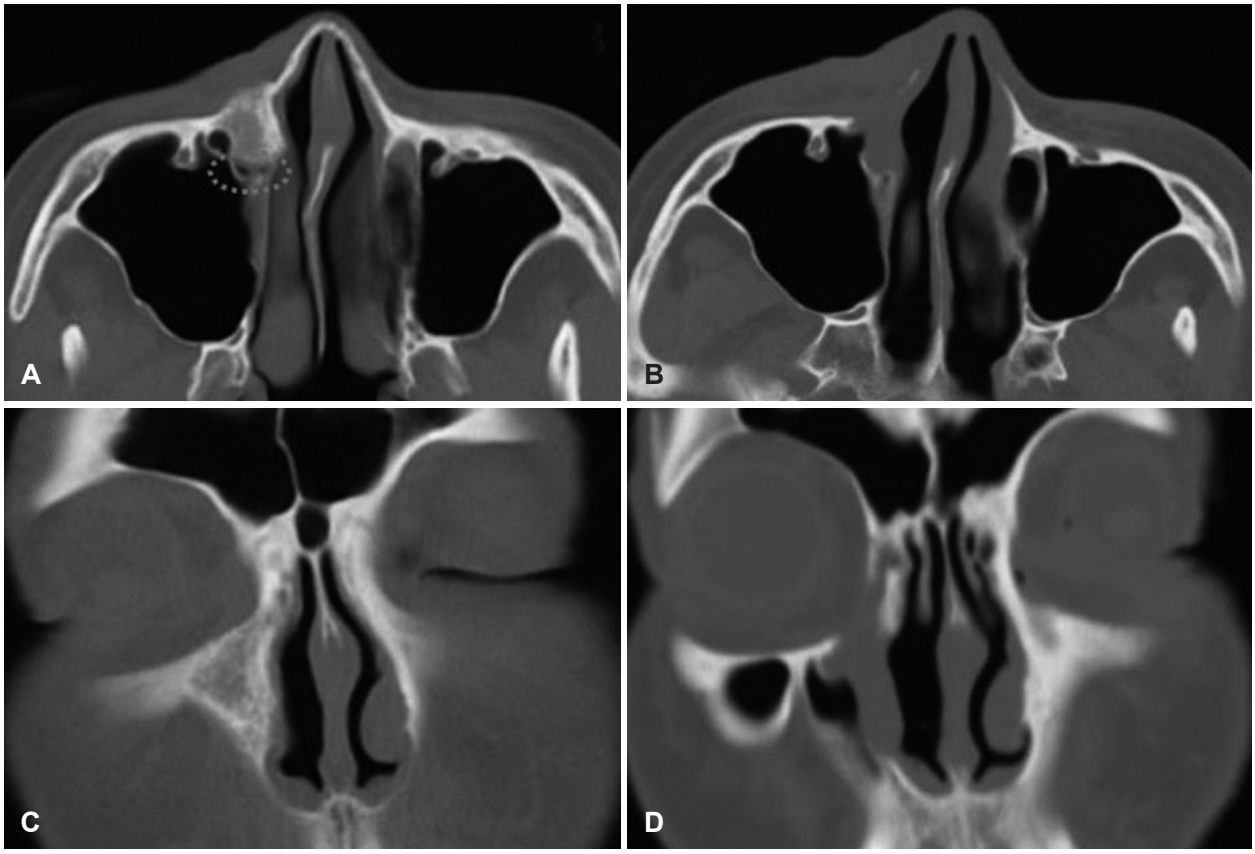

Fig. 2. Representative axial (A and B) and coronal (C and D) CT images at different timepoints. An expansile bony lesion with a sunburst pattern (A and C) posteriorly displacing the NLD (dashed ellipsoid) was absent following surgery (B and D). NLD: nasolacrimal duct.

ment of the inferior turbinate, and a mucoperiosteal flap was elevated using a periosteal elevator. After lesion identification, the cortical bone was cut and removed using a chisel and grasping forceps. The remaining lesion was resected using a Kerrison Rongeur and a high-speed drill, and the Hasner's valve was used as a landmark to avoid injury of the nasolacrimal duct. Following demarcation of the nasolacrimal duct, the lateral and superior portions of the remaining lesion were further dissected and completely removed macroscopically. During the procedure, the maxillary sinus was unintentionally opened (Fig. 1B). The surgical field was frequently obscured by bleeding, and several measures were used to achieve hemostasis: bone wax, a diamond drill burr, and Avitene (microfibrillar collagen hemostat; Davol, Warwick, RI,

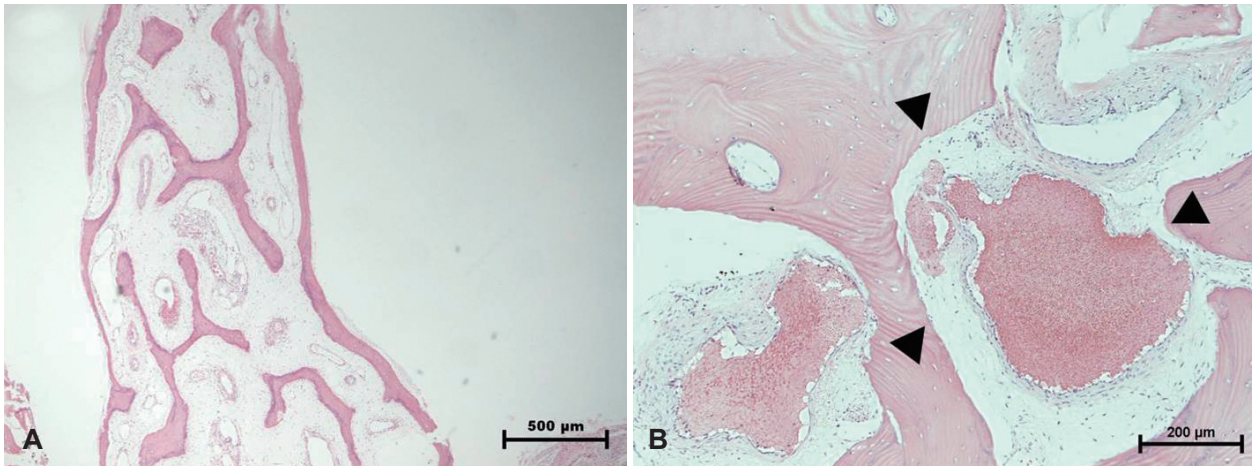

Fig. 3. Histopathology of the lesion. Numerous vessels (closed triangles) surrounded by mature bony trabeculae are present (A and B, 40× and 100×, respectively; haematoxylin & eosin stain).

USA). After lesion resection, the mucoperiosteal flap was repositioned and sutured. No significant postoperative complications occurred, including epiphora. A postoperative CT scan 1 month following the procedure showed gross total resection of the lesion (Fig. 2B and D), and postoperative nasal endoscopy revealed no mucosal injury (Fig. 1C). Histopathologic examination of the lesion showed mature trabecular bone with numerous blood vessels, which is consistent with an intraosseoushemangioma (Fig. 3).

Discussion

Intraosseous hemangioma is a rare benign vascular tumor arising from the vertebra, calvaria, and facial bones, including the mandible, zygoma, maxilla, nasal bone, and frontoparietal bone.[5)] When present in the maxilla, it can cause pain, dentition anomalies, loss of dental components, and sinusitis-like symptoms.[5,6)] On CT scans, it appears as a sharply marginated expansile lesion with a sunburst pattern of radiating trabeculae, soap bubble appearance, or honeycomb configuration, as in this case.[7)] Because of the high risk of hemorrhage, debridement is contraindicated, and radical excision is recommended.[5)] As a surgical approach for the treatment of maxillary intraosseous hemangioma, Caldwell-Luc approach or maxillectomy via lateral rhinotomy incision can be employed.[8)]

Since the advent of endoscopic surgery, many maxillary sinus lesions have been successfully removed via middle meatal antrostomy alone. Lesions involving hidden niches, such as the alveolar, zygomatic, and prelacrimal recess, may not be removed via this approach, even with curved instruments and angled endoscopes. Therefore, the Caldwell-Luc procedure and medial maxillectomy may sometimes be required.[2,3)] Endoscopic medial maxillectomy has become particularly popular for the management of inverted papilloma in the maxillary sinus.[9)] This procedure, however, sacrifices the inferior turbinate and/or nasolacrimal duct although it can be prevented by some modifications.[10,11)] The PLRA was originally introduced as a novel intranasal endoscopic approach for maxillary sinus lesions without damaging the inferior turbinate or nasolacrimal duct.[4)] We successfully employed the PLRA in the management of a medial maxillary bone lesion without significant complications. This appears to be a useful approach for the management of bony lesions of the maxilla, such as fibrous dysplasia and hemangioma, particularly when they are confined to the medial portion of the maxilla.

REFERENCES

1) Lee JH, Jun KH, Yun KJ. A case of cavernous hemangioma of maxillary sinus. Korean J Otolaryngol-Head Neck Surg 2006;49(5):565-7.
2) Matheny KE, Duncavage JA. Contemporary indications for the Caldwell-Luc procedure. Curr Opin Otolaryngol Head Neck Surg 2003;11(1):23-6.
3) Stankiewicz JA, Girgis SJ. Endoscopic surgical treatment of nasal and paranasal sinus inverted papilloma. Otolaryngol Head Neck Surg 1993;109(6):988-95.
4) Zhou B, Han DM, Cui SJ, Huang Q, Wang CS. Intranasal endoscopic prelacrimal recess approach to maxillary sinus. Chin Med J (Engl) 2013;126(7):1276-80.
5) Valentini V, Nicolai G, Lorè B, Aboh IV. Intraosseous hemangiomas. J Craniofac Surg 2008;19(6):1459-64.
6) Jung JH, Jeong BS, Kim ST, Kang IG. A case of intraosseous hemangioma of the maxilla bone. Korean J Otorhinolaryngol-Head Neck Surg 2013;56(1):45-7.
7) Moore SL, Chun JK, Mitre SA, Som PM. Intraosseous hemangioma of the zygoma: CT and MR findings. AJNR Am J Neuroradiol 2001;22(7):1383-5.

8) Ghosh LM, Samanta A, Nandy T, Das S. Haemangioma of the maxilla. J Laryngol Otol 1988;102(8):725-6.
9) Lund VJ, Stammberger H, Nicolai P, Castelnuovo P, Beal T, Beham A, et al. European position paper on endoscopic management of tumours of the nose, paranasal sinuses and skull base. Rhinol Suppl 2010;(22):1-143.
10) Nakamaru Y, Furuta Y, Takagi D, Oridate N, Fukuda S. Preservation of the nasolacrimal duct during endoscopic medial maxillectomy for sinonasal inverted papilloma. Rhinology 2010;48(4):452-6.
11) Weber RK, Werner JA, Hildenbrand T. Endonasal endoscopic medial maxillectomy with preservation of the inferior turbinate. Am J Rhinol Allergy 2010;24(6):132-5.