

Correspondence

In Reply: Treatment for Acute Tympanic Membrane Perforation

Jun Ho Lee^{1,2} · Joong Seob Lee^{1,2} · Dong-Kyu Kim^{1,2} · Chan Hum Park^{1,2} · Hae Ran Lee³

¹Department of Otorhinolaryngology-Head and Neck Surgery, Hallym University Chuncheon Sacred Heart Hospital, Hallym University College of Medicine, Chuncheon; ²Nano-Bio Regenerative Medical Institute, Hallym University, Chuncheon; ³Department of Pediatrics, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, Anyang, Korea

First of all, we would like to thank you for your interesting comments to our study. Our study was concerning to the application of synthetic bio-material patch. As your recommendation, natural healing rate of acute tympanic membrane perforation is very high [1,2], and moist environment of middle ear accelerate healing process [3,4]. In our study, the patient with small size perforation (under 25% of perforation) was 35% of silk patch group. The other patients had relative large perforation with margin's eversion or inversion. So, the confusion about natural hearing process of small perforation might be resolved. Additionally, we thought that the perforation pattern was more important than the perforation's size. Slit pattern's perforation was relatively better healing condition.

The trimming of perforation margin was argued in case of acute tympanic membrane perforation. In contrast to chronic tympanic membrane perforation, the removing process of epithelial and mucosal layer's contact inhibition (trimming) might not be necessary in the acute status. However, if the size of perforation did not enlarged by trimming, we thought that the trimming procedure was helpful in case of acute tympanic perforation even though some reports did not recommended the trimming [5].

Because we assured the advantage of synthetic biocompatible patch in this study, silk patch was tried in the other prospective cohort study: comparative analysis between silk patch and conventional perichondrial myringoplasty in chronic tympanic

membrane perforation [6]. With these two clinical reports [6,7], we carefully suggested that the silk patch has advantage effect on healing process of perforated tympanic membrane even though acute or chronic condition.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Orji FT, Agu CC. Determinants of spontaneous healing in traumatic perforations of the tympanic membrane. *Clin Otolaryngol.* 2008 Oct;33(5):420-6.
2. Jellinge ME, Kristensen S, Larsen K. Spontaneous closure of traumatic tympanic membrane perforations: observational study. *J Laryngol Otol.* 2015 Oct;129(10):950-4.
3. Lou Z, Wang Y, Su K. Comparison of the healing mechanisms of human dry and endogenous wet traumatic eardrum perforations. *Eur Arch Otorhinolaryngol.* 2014 Aug;271(8):2153-7.
4. Lou ZC, Tang YM, Yang J. A prospective study evaluating spontaneous healing of aetiology, size and type-different groups of traumatic tympanic membrane perforation. *Clin Otolaryngol.* 2011 Oct;36(5):450-60.
5. Lou ZC, Wang YB. Healing outcomes of large (>50%) traumatic membrane perforations with inverted edges following no intervention, edge approximation and fibroblast growth factor application; a sequential allocation, three-armed trial. *Clin Otolaryngol.* 2013 Aug;38(4):289-96.
6. Lee JH, Kim DK, Park HS, Jeong JY, Yeon YK, Kumar V, et al. A prospective cohort study of the silk fibroin patch in chronic tympanic membrane perforation. *Laryngoscope.* 2016 Jun 13 [Epub]. <http://dx.doi.org/10.1002/lary.25980>.
7. Lee JH, Lee JS, Kim DK, Park CH, Lee HR. Clinical outcomes of silk patch in acute tympanic membrane perforation. *Clin Exp Otorhinolaryngol.* 2015 Jun;8(2):117-22.

• Received June 22, 2016
Accepted June 25, 2016

• Corresponding author: **Chan Hum Park**
Department of Otorhinolaryngology-Head and Neck Surgery, Hallym University Chuncheon Sacred Heart Hospital, Hallym University College of Medicine, 77 Sakju-ro, Chuncheon 24253, Korea
Tel: +82-33-251-0503, Fax: +82-33-241-2909, E-mail: hlpch@paran.com

• Co-corresponding author: **Hae Ran Lee**
Department of Pediatrics, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, 22 Gwanpyeong-ro 170beon-gil, Dongan-gu, Anyang 14068, Korea
Tel: +82-31-380-4106, Fax: +82-31-380-4107, E-mail: drran@hallym.or.kr

Copyright © 2016 by Korean Society of Otorhinolaryngology-Head and Neck Surgery.

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.