(stages I and II) were diagnosed asymptomatically by a chance visit to a clinic or on ear screening. Others were diagnosed following a complaint of hearing loss, acute otitis media, or otitis media with effusion. The location of congenital cholesteatoma varied somewhat by stage. In stage I congenital cholesteatoma, the most frequent location was behind the anterior-superior quadrant of the tympanic membrane; however, in stage III congenital cholesteatoma, it was behind the posterior-superior quadrant. All patients were treated surgically. Recurrence was detected in 11 of the 87 patients (12.7%). Recurrent lesions were removed during revision surgery.

Conclusions: Potsic's staging system is a clinically useful procedure for evaluating the extent of congenital cholesteatoma. As the classification is simple, and the stage is easily determined based on otoscopic and CT findings.

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The application of endoscopes and microscopes to middle ear surgery

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Learning Objectives: The ratios of microscope and endoscopic use in middle ear surgery in our hospital were investigated, and the effective application of microscopes and endoscopes in middle ear considered.

Objective: The ratios of microscope and endoscopic use in middle ear surgery in our hospital were investigated, and the effective application of microscopes and endoscopes in middle ear considered.

Materials and methods: Middle ear surgery was performed for 63 cases of chronic otitis media with cholesteatoma and 40 cases of chronic otitis media without cholesteatoma in our hospital over a five year period from October, 2011 to September, 2015. The medical records for the 103 patients were reviewed.

Results: Thirty-seven of the 63 cases of chronic otitis media with cholesteatoma underwent surgery with a microscope alone, 15 cases with a combination of microscope and endoscope, and 11 with endoscope alone. Eighteen of the 40 cases of chronic otitis media without cholesteatoma underwent surgery with a microscope alone, 7 cases with a combination of microscope and endoscope, and 15 with endoscope alone. Surgery was performed with an endoscope alone for localized cholesteatoma in the tympanic cavity and for cases in which the edge of the perforation could not be evaluated under microscopic observation. The cases which were required mastoidectomy or in which the edge of perforation was completely visualized underwent surgery with microscope alone.

Discussion: The endoscope has been used as a tool for improving the visual exposure of hidden structures and deep recesses, obtaining a wider angle of view, and achieving minimally invasive intervention. However, its usage during surgery is limited due to its one-hand operation in comparison with surgery under microscopic observation.

Conclusion: The ratios of microscope and endoscope use during middle ear surgery in our hospital were investigated. Improvement in surgical results can be expected by undertaking interventions with an understanding of the advantages and disadvantages of each instrument.

Ethics Committee Approval: Ethics committee approval was received for this study from the local institutional review board (2015/2556).

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Marked Hearing Improvement After Surgical Removal of Vestibular Schwannoma With Profound Hearing Loss

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Learning Objectives: The preoperative hearing status is one of the important factors to determine the method of surgical approach to the vestibular schwannoma. It has been widely recognized that the hearing preservation surgery is not valuable if the patient has no serviceable hearing. The worldwide reported cases of hearing improvement after surgical removal of vestibular schwannoma with profound hearing disturbance are extremely rare so far. The authors have experienced a significant hearing improvement after surgical removal of vestibular schwannoma with preoperative unilateral total deafness but normal otoacoustic emission response, therefore we should consult the OAE response when diciding the approach method of vestibular schwannoma surgery.

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Endoscopic Autologous Cartilage Injection for the Patulous Eustachian tube