Introduction

Recidivistic cholesteatoma includes both recurrent and residual disease and occurs at a 4-70% rate (1). Canal wall up (CWU) mastoидectomies have 2.87 times higher recidivistic rates than canal wall down (CWD), according to a recent meta-analysis (1). Otoendoscopy can detect areas of cholesteatoma missed by microscopy by using angled telescopes to see around corners and by taking advantage of its wider field of view. In this study, we sought to evaluate the rates of residual cholesteatoma found by otoendoscopy after traditional microscopic dissection.

Results

A retrospective review of cholesteatoma cases from 2006 to 2011 that had at least 1 year follow up was performed. Surgical procedures included CWU mastoидectomies, CWD mastoидectomies, and tympanoplasties. After the excision of the cholesteatoma disease as visualized by microscopy, 0 and 30 degree 2.7 mm rigid otoendoscopes (Karl Storz, Germany) used to perform video-assisted endoscopy in a systematic manner. Patients with extensive and infiltrative cholesteatomas or with significant mucosal inflammation underwent a second look tympanoplasty with or without mastectomy in 6 to 12-months. In those cases where the surgeon was confident that cholesteatoma removal was complete, MRI of the temporal bones with diffusion weighted imaging (DWI) was performed yearly after the surgery was complete, MRI of the temporal bones with diffusion weighted imaging (DWI) was performed yearly after the surgery was complete.

Discussion

Otoendoscopy found residual cholesteatoma in 53% of primary cases and 8.4% of second look cases. These rates are similar to those reported by Thomassin, which are 47% of primary and 6% of secondary cases (2), and of Badr-el-Dine’s results of 16.7% in primary and 8.6% in secondary cases (3). Similar to their findings, the recurrent cholesteatoma cases are generally small and pearl-like rather than open-faced and infiltrative, which makes removal on second look procedures easier.

The reconstructed canal wall CWD mastoидectomy has been described and advocated by Mercke (4) and Gantz (5), who report rates of recurrent cholesteatoma to be 7% and 9%, respectively. Our study found a subsequent residual cholesteatoma rate of 8.4%, which is comparable to the rates for CWD reconstituted CWD mastoидectomies; however, our CWD mastoидectomy rate was only 42.2%. We believe that our lower rate of subsequent residual cholesteatoma despite our higher rate of CWD mastoидectomies is because we often utilize microscopy with both CWU and CWD mastoидectomies. Our overall recidivistic cholesteatoma rate is 8.4% as no recurrence of disease was seen on MRI-DWI or on binocular examination post-surgery during the follow up period.

Conclusions

Otoendoscopy is a complementary technique to traditional microscopy. Despite the notion that CWU and otoendoscopy are separate entities, our study showed that using otoendoscopy would decrease the residual cholesteatoma rates in both CWU and CWD approaches.

Abstract

Objective

To determine the efficacy of otoendoscopy in detecting residual cholesteatoma after traditional microsodiection.

Design and Patients

Retrospective review of 249 consecutive cases on 193 patients who underwent cholesteatoma surgery with or without otoendoscopy from 2006 to 2011.

Main Outcome Measures

Incidence of initial residual cholesteatoma after microsurgery that was found by otoendoscopy, and of subsequent residual cholesteatoma on second look procedures.

Methods

A retrospective review of cholesteatoma cases from 2006 to 2011 that had at least 1 year follow up was performed. Surgical procedures included CWU mastoидectomies, CWD mastoидectomies, and tympanoplasties. After the excision of the cholesteatoma disease as visualized by microscopy, 0 and 30 degree 2.7 mm rigid otoendoscopes (Karl Storz, Germany) used to perform video-assisted endoscopy in a systematic manner. Patients with extensive and infiltrative cholesteatomas or with significant mucosal inflammation underwent a second look tympanoplasty with or without mastectomy in 6 to 12-months. In those cases where the surgeon was confident that cholesteatoma removal was complete, MRI of the temporal bones with diffusion weighted imaging (DWI) was performed yearly after the surgery was complete.