A 10-YEAR RESULTS OF CHOLESTEATOMA SURGERY WITH MASTOID OBLITERATION

Ekaterina Pchelenok, Sergey Kosyakov, Olga Tarasova

INTRODUCTION

Residual cholesteatoma and recurrent cholesteatoma are specific problems, that reduce the surgical treatment efficacy. Presently there are two main techniques for cholesteatoma surgery: the closed technique (wall up) and the open technique (wall down). The canal wall down mastoidectomy in cholesteatoma can secure a good operation field and easy removal of the lesion. However, there are some problems: these are the lifelong care of the cavity, dizziness due to the exposed semicircular canal, difficulty with the fitting of a hearing aid as well as poor cosmetics. The canal wall up technique has a better hygienic status and better functional outcome. This technique is associated with a higher rate of residual disease and a higher rate of recurrent disease. To prevent both residual and recurrent cholesteatoma, we performed canal wall down technique with the obliteration of paratympanic spaces for patients with acquired cholesteatoma.

 OBJECTIVES

Evaluation of the effectiveness of paratympanic space obliteration during the middle ear cholesteatoma surgery.

METHODS

We have been following up patients for some years and then analyzed the results about residual and recurrence of cholesteatoma. 253 ears were operated (249 patients: 102 females and 147 males). In 176 cases an operation was performed for the first time and 77 cases were revision and re-operation after surgery by other surgeons. All patients underwent sanation surgery with the obliteration of paratympanic spaces followed by the restoration of the posterior wall of the external auditory meatus and simultaneous tympanoplasty. Close tympanic cavity with chondro-perichondrial flap with simultaneous ossiculoplasty. Obliterate paratympanic spaces with bone pate, or bioglass, or allocartilage and cover it with chondro-perichondrial flap. The patients were examined 1, 2 and 3 years after the treatment with the use of the MRI technology using the non-EPI DWI regime to monitor the residual and recurrence cholesteatoma. The high intensive signal in regime T2 and non-EPI DWI and the low intensive signal in standard regime T1 show the presence of cholesteatoma. And control for recurrent disease was done by yearly microotoscopic evaluation.

RESULTS

From 2010 to 2017, we operated 253 ears. The results were evaluated according to otomicroscopy, MRI sequences, such as the non-EPI DWI and recorded for survey. From 2010 to 2012 the residue of cholesteatoma was diagnosed in 10 cases (12%), from 2010 to 2013 – 13 cases (11.5%), from 2010 to 2014 – 14 cases (9.4%), from 2010 to 2015 – 15 cases (8.4%) and from 2010 to 2016 – 16 cases (7.4%). From 2010 to 2017 – 18 cases (7.1%). Most patients had good epithelization on the external auditory canal and could cease water restriction after surgery.

CONCLUSION

Long-term follow up indicated that the canal wall down technique with bony obliteration is a safe method with which to treat primary cases and to reconstruct unstable cavities. The MRI technology in the non-EPI DWI regime was successful in differentiating soft tissues and enabling the detection of residual or recurrent cholesteatoma after a canal wall down bony obliteration technique procedure.