ABSTRACT

Introduction: Cholesteatoma is an abnormal growth of squamous epithelium in the middle ear and mastoid which destroy important structures in the temporal bone. The presence of cholesteatoma requires surgical intervention and the main goal is to achieve a dry ear and to improve the hearing. The extension of surgery depends on the size of the cholesteatoma.

Methods: 875 patients were treated for cholesteatoma in our department between 2001 and 2011, 213 pediatric patients. We performed both, open and closed technique, depending on disease extension, bone erosion and complications, followed by secondlook surgery in most of the closed-technique cases.

Results: The closed technique was the treatment of choice in 69.2% of cases, most of them uncomplicated cholesteatomas. In 30.6% we’ve chose the open technique for different reasons. The second look surgery was done in 57.3% of cases after one and a half or two years. 27.1% of patients were lose of follow-up program after the first years. Residual cholesteatomas were noticed in 17% of cases and the recurrent cholesteatomas were operated in 32% of cases. After the surgery the airbone gap has improved in 67.1% of cases because of tympanoplasty with autologous graft or different types of prostheses. In some cases we’ve used the Baha prosthesis with good results.

Conclusions: Cholesteatoma is a serious condition which affects both children and adults. The second-look control in closed technique should be done after one-one and a half year. Closed technique is recommended in order to restore the function of the ear, the hearing, which is very important for a normal development and a proper quality of life.

INTRODUCTION

Cholesteatoma

• Scalled keratin inside the middle ear or any pneumatized area in the temporal bone deriving from a keratinized squamous epithelium

• Malphighian desquamant epithelium in the tympanic cavity

• Skin in the wrong place

• Destructive lesion of the skull base that can erode and destroy important structures within the temporal bone.

• In children - more aggressive than in adults - more extensive and it has a higher rates of residual and recurrent disease.

Treatment

- Surgical intervention
- Main goals:
  - A safe and dry ear by removing disease with the preservation of normal anatomy;
  - To preserve/restore the hearing;
  - To prevent residual/recurrent disease

The extent and effectiveness of surgery depends upon the size of the cholesteatoma.

MATERIALS AND METHODS

It was a retrospective study of patients treated in Cluj-Napoca’s County Emergency Hospital, ENT Department, since 2001 to 2010 for chronic otitis media with cholesteatoma We found in our records 875 ear surgeries for chronic otitis media with cholesteatoma, 213 pediatric patients and 662 adults. Surgical techniques used:

- Canal wall-down tympanomastoidectomy
- Canal wall-up tympanomastoidectomy

We included in our study only patients with cholesteatoma, or with deep and uncontrollable RF, with recurrent disease, and second look surgeries for patients operated before in our department. We included also the primary cholesteatoma a very uncommon disease with a low incidence. We excluded from our study the other types of chronic otitis media without cholesteatoma, or the cholesteatoma occurred after ear surgery.

RESULTS

Hearing loss and otosclerosis were the major symptoms both in adults and children, followed by otalgia in children or dizziness in adults. Adult complaints also about headache.

Although the complications had a low rates, both in adults and children, almost every year we founded some complicated cases like cerebral abscess, meningitis, sigmoid sinus thrombosis, labyrinthine fistulae or facial palsy.

At physical examination we found (Fig 1, 6, Table 1):

- Granulation tissue, purulent discharge
- Tympanic membrane perforation
- Deep retraction pocket – pars flaccida/posterior quadrant
- Complications like abscess in the neck, sigmoid sinus thrombosis, epidual/cerebral abscess, meningitis, facial palsy

Figure 2. Patients distribution over the studied period, adults and children.

Figure 3. Surgical techniques:

- At first operation:
  - Close technique was used in 47% of adults and in 64% of children.
  - Open technique was used in 53% in adults and in 36% in children.

- Recurrence surgery was performed in about 60% of adults, where one third were open cavities, and in 65% of children, where about 44% were open cavities.

- Adult surgery in adults about 58% were close techniques which include the reconstructed open cavities; in children about 44% had close techniques, including the reconstructed cavities, about 2% of patients operated more than 2 surgeries.

Figure 4. Both, in adults and in children, the CWD surgery tend to replace the CWD surgery.

Figure 5. In the revision surgery we reconstructed the ear structures all over when the disease allowed it.

Figure 8. Postoperative aspects

DISCUSSIONS, CONCLUSIONS

Our study reveals that in the last years the cholesteatoma was diagnosed in earlier stage than in the past, with less complication which allow us to perform more closed technique. This could been possible also as a result of an intensive and continuous training of surgeons.

Recurrent disease was found in 35.87% which is included in the interval reported in literature.

Like in other studies we founded that closed technique had higher recurrence than open technique.

In conclusion, cholesteatoma’s treatment need to be individualized, surgeons should to choose the procedure according to the localization and extension of disease, considering the hearing, the socio-economic status of the patient of which depends the follow-up and recurrence control.

REFERENCES


