**Pediatric Myringoplasty: Definition of “Success” and a Review of 67 Cases**

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**ABSTRACT**

Objectives: To determine the true success rate of pediatric myringoplasty.

Materials and Methods: This was a retrospective analysis of all myringoplasties performed at Hyogo College of Medicine between January 2007 and December 2009. We divided our population into a younger group (<10 years old, n=41) and an older group (≥10 years old, n=26). Furthermore, we compared the group of all children (n=67) with an adult group (n=37) that was operated on at Hyogo College of Medicine in 2009.

Results: In the child group, perforation closure was achieved in 80.6% of children who had perforation closure without evidence of adhesions, retraction, or effusion was present in 73.1%. An intact membrane with improvement of hearing was achieved in 85.0% of the younger group, 82.5% of the older group, and 76.0% of the combined group (p=0.22). No significant difference in success rates was seen between children and adults in terms of rates of intact membrane without evidence of adhesions, retraction, or effusion.

Methods and materials

**INTRODUCTION**

**RESULTS**

1. Perforation closure was achieved in 78.0% of the younger group, 84.6% of the older, and 86.0% of children as a whole. No significant difference was seen between the younger and older groups. Perforation closure was achieved in 89.2% of adult cases, showing no significant difference compared to the child group.

2. An intact membrane without evidence of adhesions, retraction, or effusion was achieved in 12.0-month follow-up in 88% of the young group, 80.9% of the older group, and 84.0% of the combined group (p=0.01).

3. Hearing outcomes were considered successful, if the postoperative air-bone gap was achieved in 80.6% of the younger group, 84.6% of the older group, and 84% of children as a whole. A significant difference was seen between the younger and older groups in the adult group (p<0.05). No significant difference in success rate was seen between children and adults in terms of rates of intact membrane without evidence of adhesions, retraction, or effusion.

4. Success of pediatric myringoplasty was not defined purely by perforation closure. Normal mastoid cells, function of the auditory tube, and state of the contralateral ear were considered factors affecting success.

**CONCLUSIONS**

1. No significant difference in the success rate of myringoplasty was seen between children (<10 years old) and adults (≥10 years old).
2. No significant differences in rates of closure or hearing improvement were seen between children and adults.
3. Significant difference in outcomes was seen between children and adults in terms of rates of intact membrane without evidence of adhesions, retraction, or effusion.
4. Success of pediatric myringoplasty was not defined purely by an intact tympanic membrane without evidence of adhesions, retraction, or effusion.

5. We also studied the success rates of development of mastoid cells, function of the auditory tube, and state of the contralateral ear.

6. A significant difference in outcome was seen between children with good and poor development of mastoid cells.

7. The number of cases with testing of auditory tube function was limited to 25%, only 40% of children were able to undergo audiometry.

**REFERENCES**