



# Exudative otitis media in children with cleft lip and palate

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## ABSTRACT

**Introduction:** Children with cleft lip (CL) and palate (CP) often have exudative otitis media (EOM) due to its anatomical problems, and therapeutic strategy of EOM in children with CL and CP is still controversial although EOM tends to become intractable. Tympanic tube placement is considered a first choice of the treatment, but there are few reports on the prognosis with and without tube placement.

### Cases & Methods:

This is a retrospective study in the referral center. 58 children with CL and CP were followed up from the birth to 17 years old (mean: 10.6) by us in cooperation with plastic surgery, dentistry, and pediatrics department. Palatoplasty was performed on all children between 1 and 1.5 years old. Tympanic tube placement was performed in 20 of the 58 children (41.7%) at the time of palatoplasty when they were suffering from EOM. Prognosis of EOM in the 20 children with tympanic tube was compared with 38 children without tympanic tube.

### Results:

Mean follow-up period was 86 months after surgery, and it was not different in both groups. 20 of the 38 children (52.6%) without tympanic tube were suffered from EOM in the follow-up period, and tympanic tube placement was performed in 9 children. Acute otitis media (AOM) was found in 13 of the 20 (65.0%) with tympanic tube, and 17 of the 38 (44.7%) children without tympanic tube. AOM was more frequent in children with tympanic tube.

### Conclusion:

Tympanic tube placement in children with CL and CP at the time of palatoplasty regardless of with or without EOM is recommended in this study though the rate of AOM is relatively high.

## CONTACT

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## INTRODUCTION

Children with cleft lip (CL) and palate (CP) often have exudative otitis media (EOM) due to its anatomical problems, and therapeutic strategy of EOM in children with CL and CP is still controversial although EOM tends to become intractable. Tympanic tube placement is considered a first choice of the treatment, but there are few reports on the prognosis with and without tube placement.

## Cases & Methods

This is a retrospective study in the referral center. 58 children with CL and CP (Fig1) were followed up from the birth to 17 years old (mean: 10.6) by us in cooperation with plastic surgery, dentistry, and pediatrics department at CL and CP center. They consisted of 38 boys and 20 girls, and the age ranged from 1 to 17 years old (Table 1).

Palatoplasty was performed on all children between 1 and 1.5 years old. Tympanic tube placement was performed (Fig 2) in 20 of the 58 children (41.7%) at the time of palatoplasty when they were suffering from EOM. Prognosis of EOM in the 20 children with tympanic tube was compared with 38 children without tympanic tube.

Figure 1. Cleft lip (CL) and Palate (CP)

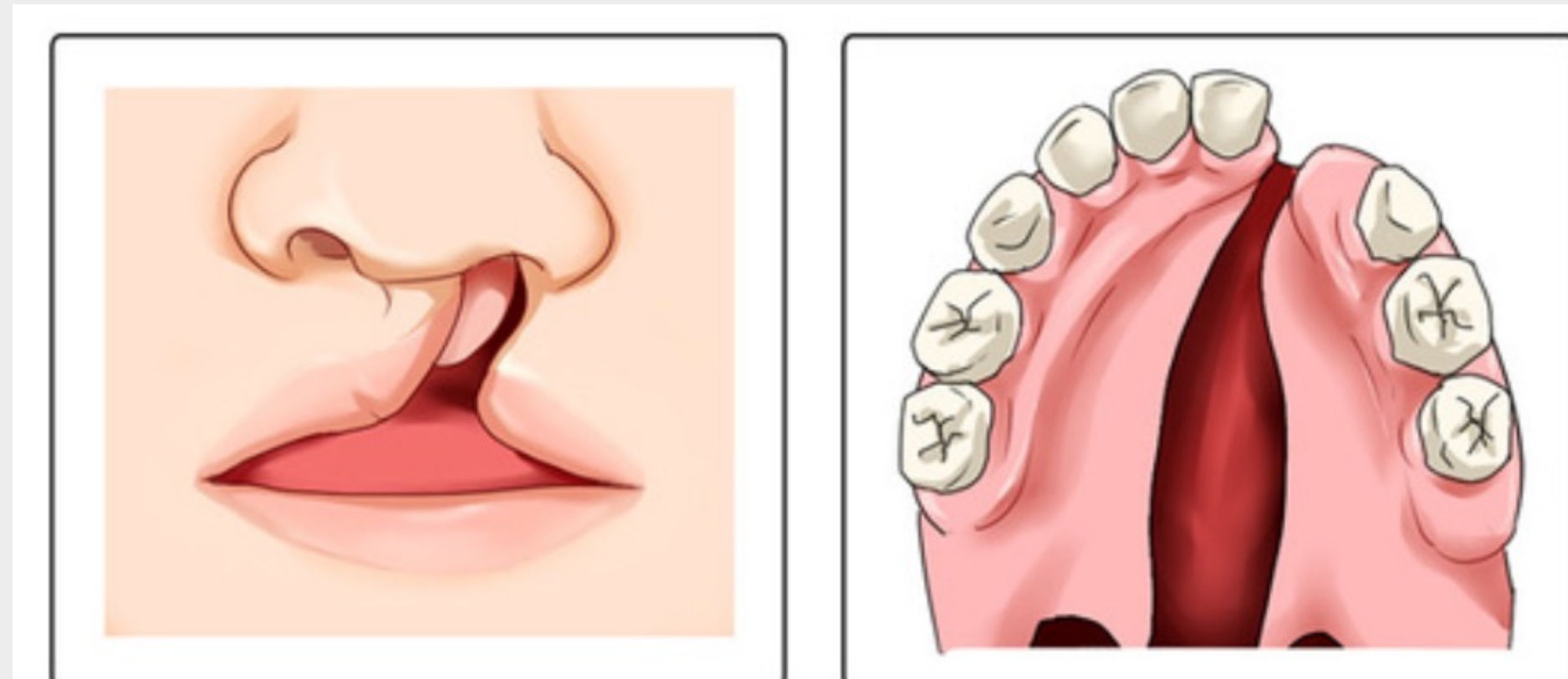
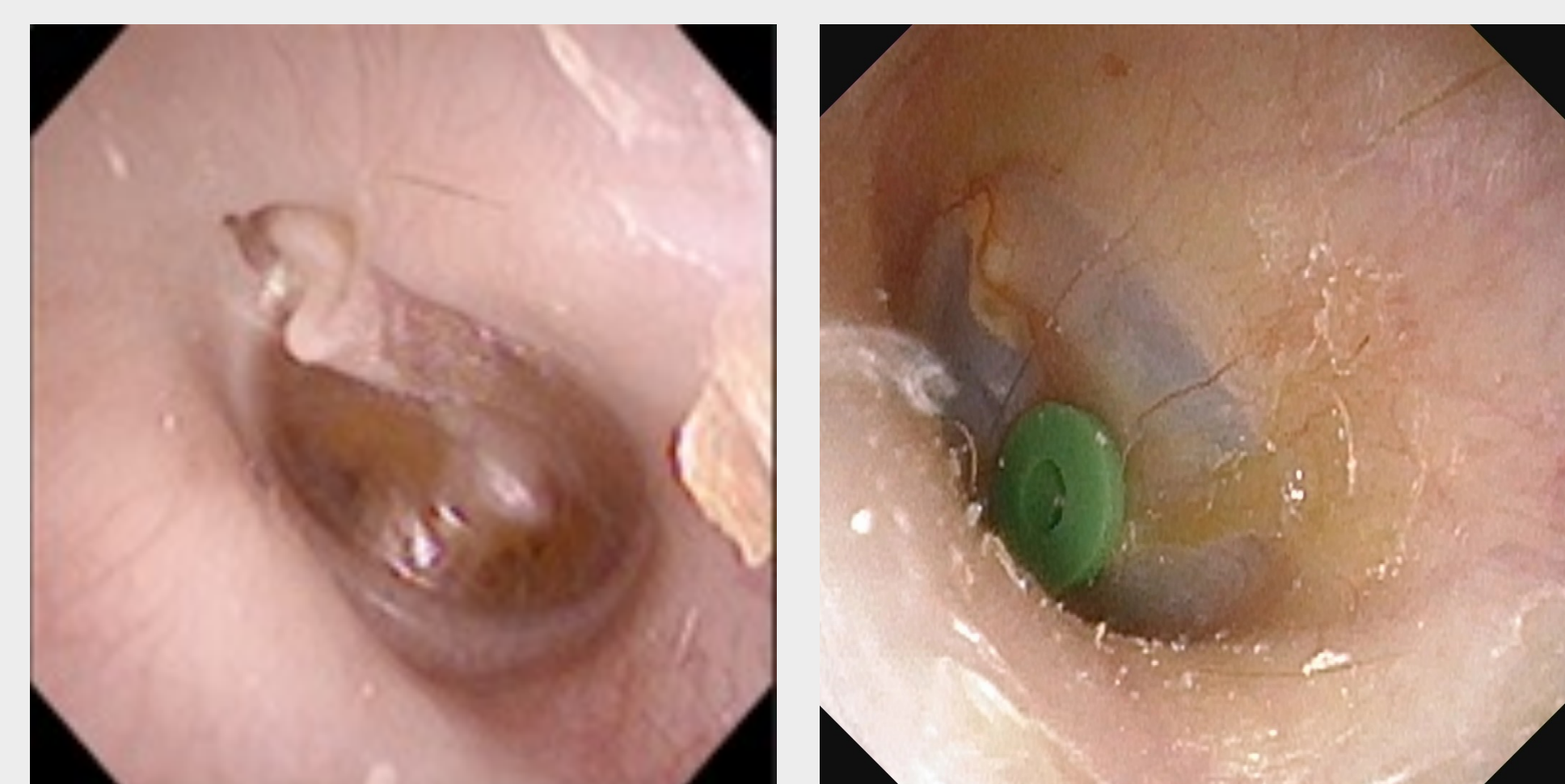


Figure 2.



Left ear: EOM case

Left ear: Tube placement case

## RESULTS

Mean follow-up period was 86 months after surgery, and it was not different in both groups (Table 1). 20 of the 38 children (52.6%) without tympanic tube were suffered from EOM in the follow-up period, and tympanic tube placement was performed in 9 children (Chart 2). Acute otitis media (AOM) was found in 13 of the 20 (65.0%) with tympanic tube, and 17 of the 38 (44.7%) children without tympanic tube. AOM was more frequent in children with tympanic tube placement.

Chart 1. Age of children enrolled in this study at last visit.

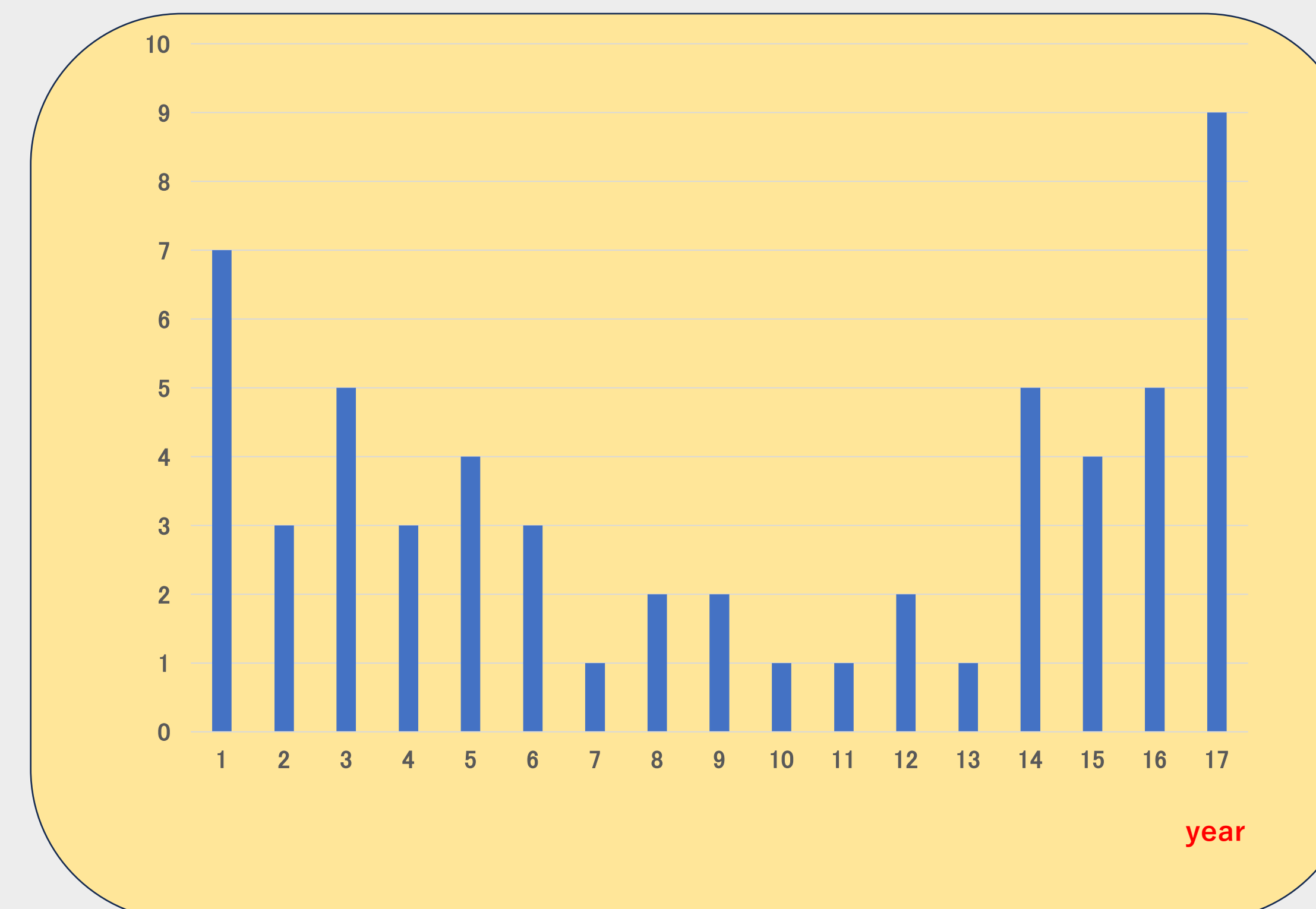


Chart 2. Age of children performed tube placement later in non-tube placement.

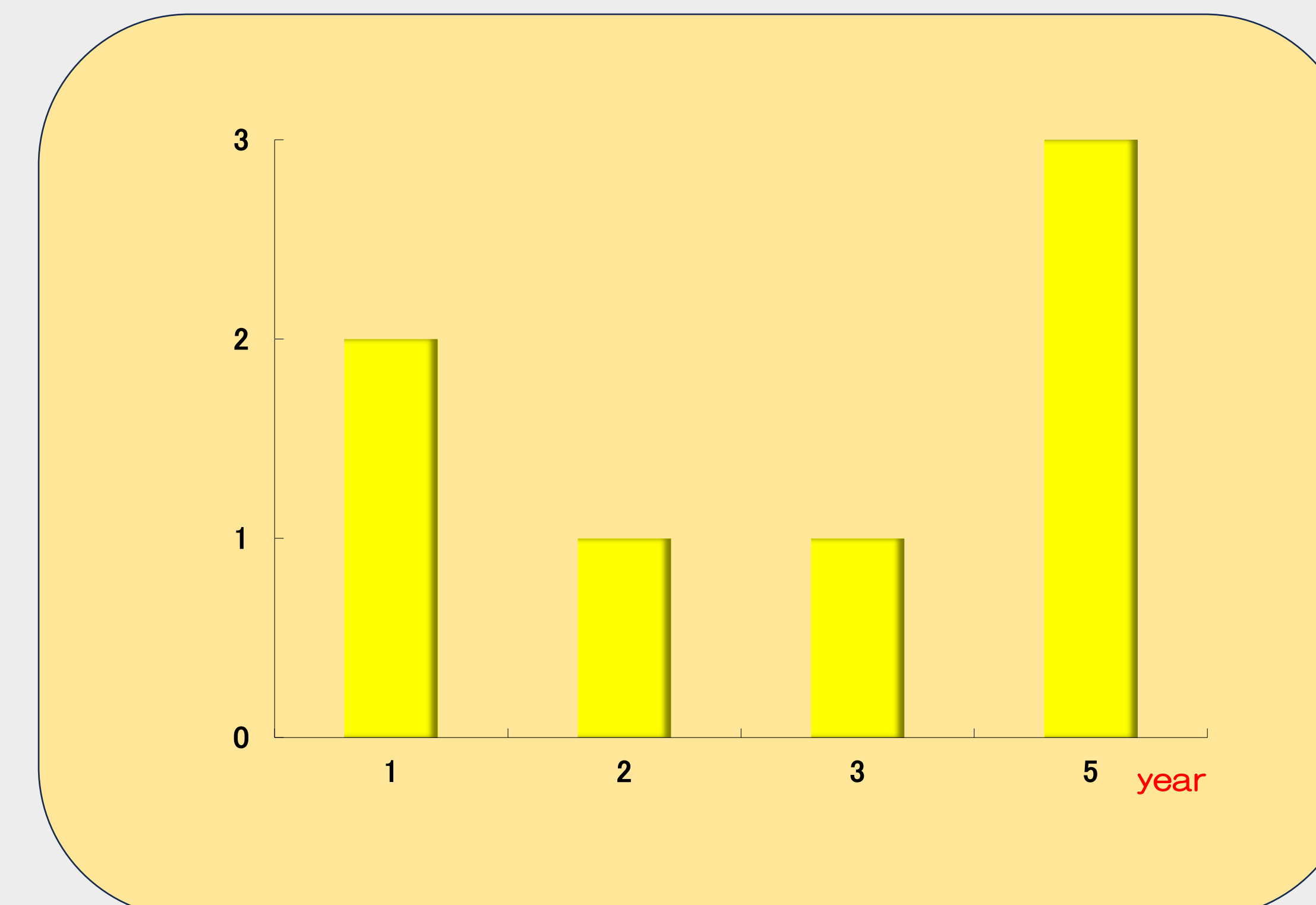


Table 1

Cases	Tube (+) n = 20	Tube (-) n = 38	p value
Boy/ girl	13/7	25/13	n.s
Age at last visit	17	17	n.s
EOM	0	20 Tube placement; 9	P<0.15
AOM	13	17	n.s
Permanent perforation	2	1	n.s
Cholesteatoma	0	1	n.s

## DISCUSSION

Normally, the tensor veli palatini muscle, which is attached to the Eustachian tube, contracts to open the Eustachian tube and drain exudates from the nasal cavity. In cases of cleft lip (CL) and palate (CP), the aponeurosis of the tensor veli palatini muscle is divided into left and right sides, making it impossible to open the Eustachian tube, allowing exudate to travel from the nasal cavity to the middle ear.

Tympanic tube placement is recommended in all cases because exudative otitis media (EOM) is frequently seen in cases of cleft lip and palate (9). However, there are reports that tympanic membrane perforation and cholesteatoma occur as sequelae of tympanic membrane tube placement (10).

In this study, 20 of the 38 children (52.6%) without tympanic tube were suffered from EOM in the follow-up period, and tympanic tube placement was performed in 9 children. AOM was more frequent in children with tympanic tube.

## CONCLUSIONS

Tympanic tube placement in children with CL and CP at the time of palatoplasty regardless of with or without EOM is recommended in this study though the rate of AOM is relatively high.

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