Introduction
Otitis media with effusion (OME) is usually treated by medications, myringotomy, or insertion of ventilation tube (VT). Except for VT insertion, however, their effects do not last much longer. VT insertion has also a lot of sequelae: to cause of easy infection, large perforation or degeneration of tympanic membrane, cholesteatoma formation and hearing deterioration in the long-term. Nowadays, antineoplast agents as the suppressant of cell-proliferation receive a great deal of attention in many fields. 2 Otologically, though some studies that 5-fluorouracil (5-FU) and/or mitomycin-C (MCC) applied for preventing myringotomy closure were reported.3

Aims
The aim of this study is to evaluate the combined effect of 5-fluorouracil (5-FU) and myringotomy for the treatment of otitis media with effusion (OME).

We have already reported that 5-FU has a dose dependent anti proliferative effect for fibroblast and a single application of small amount of 5-FU ointment was effective in prolonging the effect of myringotomy.4 However, a single application of 5-FU ointment is not enough to cure OME, because only about 10% of the patients had a myringotomy patency time over 4 weeks.

In this study, we assessed whether repeated application of 5-FU has the potentiality to maintain the patency of the myringotomy site for a much longer period of time or not.

Materials and Methods
109 patients were randomly selected from patients with intractable OME. They were divided into 2 groups. Myringotomy with a single or repeated application of 5-FU ointment were performed in group I (n=64) and II (n=45), respectively. The application dose of 5-FU ointment was about 0.1-0.3mg at a time. In group II, all patients were treated every 1 week until perforation closing. Natural closure rates of tympanic membrane in both groups were assessed.

Results
The average closure times of tympanic membrane were 20.5 days and 29.1 days in group I and II, respectively. There are significant differences between the two groups in the cure rates of OME. No adverse events were not observed in both groups.

Conclusions
Repeated topical application of 5-FU ointment is useful in prolonging the effect of myringotomy. This 5-FU ointment therapy for OME is easy, safe and cost-effective and may be alternative treatment to the VT insertion.

Methods

The procedures of the 5-FU ointment therapy for OME

Figures

The average number of cells in the 3 dishes in each group, 2 weeks after culturing

Patients profiles and therapeutic methods

Group I: Otitis media with effusion 64 ears
(Male:36, Female:28, Age:7-82)

Single application of 5-FU ointment (0.1-0.3 mg) at the myringotomy site

Group II: Otitis media with effusion 45 ears
(Male:18, Female:27, Age:9-79)

Repeated application of 5-FU ointment (0.1-0.3 mg/week) at the myringotomy site

Table 1

The average number of the days to close myringotomy, to develop the symptoms and cure rates

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References