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### **Title**

Meibomian Gland Preserving Treatment for Chalazion in Children

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### **Purpose**

Chalazion is a noninfectious chronic granulomatous inflammatory lesion due to retention of lipid secretions from the meibomian glands (MGs). Traditionally, the “cutting” treatment for a persistent chalazion by incision and curettage has been the mainstay of treatment. Previous studies have shown that the resolution rate of surgery was 60-90% from 4 days to 3 weeks. Chalazion surgery in younger children may be performed without anesthesia or under general anesthesia. Recently, the non-surgical treatment of chalazion has been re-evaluated from the perspective of preserving the morphology and function of MGs. We have been actively doing the MG preserving treatment for chalazion for the past 7 years. The aim of this study was to investigate the clinical course of the non-surgical MG preserving treatment for chalazion in children.

### **Methods**

Retrospective chart review of patients with chalazion under 18 years of age who visited a private clinic between August 2020 and July 2023.

### **Results**

Of the 295 patients with chalazion, 78 were under 18 years old (31 males, 47 females, mean age of  $5.3 \pm 4.3$  years (range 4 months to 18 years)). 64% were under 5 years old. They visited the clinic 0 days to 1 year (median 12 days) after the onset of chalazion. At the first visit,  $1.2 \pm 0.5$  (1-4) chalazia were found on  $1.1 \pm 0.4$  eyelids. 28 patients had a history of chalazion, two of chalazion surgery, and 18 had multiple chalazia. Chalazia of 26 patients were self-destructive. Shortening and dropout of MGs at the site of chalazion were observed in all 5 cases who were able to be examined, and corneal epithelial damage was seen in 1 of 9 cases. Patients underwent the following treatments:

warming eyelids (73%), lid hygiene (76%), topical antibiotic and/or steroid (78%), intralesional steroid injection (1%). 4 patients (5%) underwent surgery. 36% had only one visit. During the mean observation period of  $5.5 \pm 7.6$  months, chalazion developed at a new site in 17 cases, and recurrence at the same site was observed in 3 cases. In patients who visited the clinic two or more times, 88% of patients with chalazia that were present at the first visit and 71% of patients with multiple recurrent chalazia were cured or improved with non-surgical treatment.

### **Conclusions**

Non-surgical MG preserving treatment for chalazia was effective in children. It is important to cure chalazion and prevent recurrence to minimize loss of MGs.