

Are There Any Difference Between Primary and Multiple Operated Chalazion According to Age, Gender or Lesion Location?

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ABSTRACT

AIM: This study aimed to compare the effect of age, gender and site of chalazion between cases underwent chalazion surgery for first time and those who underwent multiple chalazion surgery.

MATERIALS AND METHODS: Daily chalazion operation lists of Ulucanlar Eye Training and Education Hospital were examined retrospectively. Adult patients who missing medical records and all pediatric population were excluded. Forty patients who underwent chalazion surgery for first time and 22 patients who underwent multiple chalazion surgery were included. Two groups were compared according to age, gender, and site of chalazion.

RESULTS: This study consisted of 30 males and 32 females. The mean age of patients was 40.1 ± 18.2 years. The percent of male were

45 and 54.5, percent of female were 55 and 45.5 in primary chalazion (PC) and multiple operated chalazion (MOC) groups, respectively. The mean age was 42.0 ± 19.4 years and 36.6 ± 15.8 years in two groups. The percent of right eye laterality were 72.5 and 52.4, percent of left eye laterality were 27.5 and 47.6 in PC and MOC groups, respectively. The percent of upper eyelid location were 60 and 40, percent of lower eyelid location were 40 and 60 in PC and MOC groups, respectively. When compared two groups according to age, gender, chalazion laterality and location, there were no statistically significant differences (p values were 0.302, 0.475, 0.119 and 0.259 respectively).

CONCLUSION: Factors such as age, gender and site of chalazion are similar in both PC and MOC groups.

Key words: Operated chalazion; Primary chalazion; Age; Gender; Location; Laterality

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INTRODUCTION

Chalazion is one of the most prevalent eye diseases. Non-infectious lipogranulomatous inflammation related to blocked meibomian gland orifices causes chalazion^[1,2]. Painless swelling, ptosis, narrow eyelid aperture and astigmatism are chalazion related clinical findings^[3]. If lesion does not resolve with warm compress, several invasive treatment options such as intralesional steroid injection or surgical drainage can be performed^[4].

After treatment, recurrent chalazion can occur in same or another eyelid. In generally, this condition is related to chronic blepharitis and meibomian gland dysfunction. Meibomian glands are placed in tarsal plates of eyelids and produce lipid layer of preocular tear film^[5]. Normally, meibomian glands have different anatomical properties in

upper and lower eyelids. Meibomian glands are thinner and longer in upper eyelids than in lower eyelids. Many ophthalmic, systemic or environmental factors contribute to development of meibomian gland dysfunction. Meibography showed obscuration of around 5-10 meibomian glands at site of chalazion^[6]. Gland dropout occurs more in elders, lower eyelid and females^[7].

In our clinical study, we aimed to compare the effect of age gender and site of chalazion between cases who underwent chalazion surgery for first time and those who underwent multiple surgery.

MATERIALS AND METHODS

We accomplished a retrospective analysis of daily chalazion operation lists in Ulucanlar Eye Research and Education Hospital, between January 2015 – December 2015. These lists contain name of patients and short information such as age, gender, ophthalmic operation history, lesion laterality, and location. Adult patients who missing medical records and all pediatric population were excluded. Twenty-two patients who had multiple operated chalazion (MOC) (patients who previously operated at least one time) were included. Forty patients who suffered primary chalazion (PC) (patients who going to be operated first time) were selected randomly in more than 300 other adult patients and included study. This study followed the tenets of the Declaration of Helsinki and was approved by the local ethics committee.

Statistical Package for the Social Science (SPSS) 22.0 (IBM Corp., NY, USA) was used for statistical analysis. Kolmogorov-Smirnov test was used for test of normality. It was seen numerical data did not fit normal distribution. Mann-Whitney U test was used for analysis of two independent samples as nonparametric test.

RESULTS

This study consists of 30 (48.4%) males and 32 (51.6%) females totally 62 patients who suffered chalazion. The mean age of patients was 40.1 ± 18.2 years with range between 18-83-year-old. The laterality of lesion was 65.6% in right eye and 34.4% in left eye. The location of lesion was 56.0% in upper eyelid and 44.0% in lower eyelid.

Forty-five percent of patients were male and 55% of patients were female in PC group. 54.5% of patients were male and 45.5% were female in MOC group. There was no statistically significant gender difference between two groups ($p = 0.475$).

The mean age of PC group was 42.0 ± 19.4 years with range between 18-83-year-old. The mean age of MOC group was 36.6 ± 15.8 years with range between 18-74-year-old. The mean age of two groups were similar ($p = 0.302$).

The laterality of lesion was 72.5% in right eye and 27.5% in left eye in PC group. The laterality of lesion was 52.4% in right eye and 47.6% in left eye in MOC group. The location of lesion was 60.0% in upper eyelid and 40.0% in lower eyelid in PC group. The location of lesion was 40.0% in upper eyelid and 60.0% in lower eyelid in MOC group. There was no statistically significant difference between two groups according to laterality and location of lesion (p values were 0.119 and 0.259 respectively). All results are summarized in Table.

DISCUSSION

Meibomian gland dropout, hyposecretion, orifice narrowing and pouting occurs with increased age^[6,8,9]. Although the negative effects of aging on meibomian gland function, we found that mean age of PC and MOC were similar in adults.

Table 1 Comparison of factors such as age, gender, laterality, and location of lesion between PC and MOC.

Group	PC		MOC		p value
Age (years)	42.0 ± 19.4		36.6 ± 15.8		0.302
Gender (%)	Male	Female	Male	Female	0.475
	45	55	54.5	45.5	
Laterality (%)	Right Eye	Left Eye	Right Eye	Left Eye	0.119
	72.5	27.5	52.4	47.6	
Location (%)	Upper Eyelid	Lower Eyelid	Upper Eyelid	Lower Eyelid	0.259

One study showed that meibomian gland dropout is more in females^[6]. In another study noted that gender was not associated with meibomian gland dropout in subjects < 70 years of age^[8]. Similarly, in our study, male-to-female ratio were found similar in PC and MOC.

The number of meiboman glands is higher in upper eyelid (approximately 30-40 meibomian glands) when compared to lower eyelid (approximately 20-30 meibomian glands) ^[10]. In addition, meibomian glands are thinner and longer in upper eyelids than in lower eyelids, at the same time squamous blepharitis and posterior lid margin rounding were more in upper eyelid ^[6,9]. Nevertheless, gland dropout occurs more in lower eyelid ^[6]. In light of this information, it can be considered that the recurrence rate of chalazion is different in upper and lower eyelids. However, no statistically significant differences in location of lesion when comparing PC and MOC.

Retrospective design of our study is an important limitation. So, detailed medical history including recurrent blepharitis and chalazion causing diseases or medications were not asked. Lesions were not separated according to size or duration. Another limitation was that chalazion diagnosis was clinically indicated and not confirmed histopathologically.

Powerful side of study that PC and MOC have been compared first time according to age, gender, and location of lesion, to our knowledge.

CONCLUSION

To our knowledge, there are several differences in meibomian gland functional anatomy of upper and lower eyelids. Additionally, aging and gender are directly effect meibomian gland function. However, these factors were found similar in PC and MOC and it can be considered that these factors do not effect directly recurrence rate of chalazion.

REFERENCES

1. Wagner RS. When is a chalazion not a chalazion? *J Pediatr Ophthalmol Strabismus*. 2016; **53**: 205. [PMID: 27428621]; [DOI: 10.3928/01913913-20160510-01]
2. Park J, Chang M. Eyelid fat atrophy and depigmentation after an intralésional injection of triamcinolone acetonide to treat chalazion. *J Craniofac Surg*. 2017. [PMID: 28468185]; [DOI: 10.1097/SCS.0000000000003367]
3. Arbabi EM, Kelly RJ, Carrim ZI. Chalazion. *BMJ*. 2010; 341. [PMID: 21155069]; [PMCID: PMC2974575]; [DOI: 10.1136/bmj.c4044]
4. Perry HD, Serniuk RA. Conservative treatment of chalazia. *Ophthalmology*. 1980; **87**: 218-221. [PMID:7422261]
5. Knop E, Knop T, Millar T, Obata H, Sullivan DA. The international workshop on meibomian gland dysfunction: Report of the subcommittee on anatomy, physiology, and pathophysiology

- of the meibomian gland. *Invest Ophthalmol Vis Sci.* 2011; **52**: 1938-1978. [PMID: 21450915]; [PMCID: PMC3072159]; [DOI: 10.1167/iovs.10-6997c]
6. Alsuhaibani AH, Carter KD, Abramoff MD, Nerad JA. Utility of meibography in the evaluation of meibomian glands morphology in normal and diseased eyelids. *Saudi J Ophthalmol.* 2011; **25**: 61-66. [PMID: 23960903]; [PMCID: PMC3729445]; [DOI: 10.1016/j.sjopt.2010.10.005]
 7. Machalinska A, Zakrzewska A, Safranow K, Wiszniewska B, Machalinski B. Risk factors and symptoms of meibomian gland loss in a healthy population. *J Ophthalmol.* 2016; **2016**: 7526120. [PMID: 27965892]; [PMCID: PMC5124676]; [DOI: 10.1155/2016/7526120]
 8. Den S, Shimizu K, Iketa T, Tsubota K, Shimmura S, Shimazaki J. Association between meibomian gland changes and aging, sex, or tear function. *Cornea.* 2006; **25**: 651-655. [PMID: 17077655]; [DOI: 10.1097/01.ico.0000227889.11500.6f]
 9. Hykin PG, Bron AJ. Age-related morphological changes in lid margin and meibomian gland anatomy. *Cornea.* 1992; **11**: 334-42. [PMID: 1424655]
 10. Driver PJ, Lemp MA. Meibomian gland dysfunction. *Surv Ophthalmol.* 1996; **40**: 343-67. [PMID: 8779082]

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