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Original Research Article

# Comparison of Prevalence of Chalazion among Diabetic and Non-Diabetic Patients

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**Abstract:**

Chalazion usually defined as a localized continual granulomatous infection of the meibomian glands, generally affecting the upper eyelids. Diabetes is being a chronic metabolic disorder, often associated with significant morbidity and mortality in multiple systems of the body. DM affects nervous system (diabetic neuropathy), kidney (nephropathy), immune system (cause of recurrent infections), eye and various other systems. In our study we investigated patients with presenting complaints of chalazion for their diabetic status and stratified them into two groups diabetic and non-diabetic. Both groups treated with same protocol and procedures and analysis compared. As a result, we found that non-diabetic patients take less time to recover compared to poorly controlled diabetic patients.

**Keywords:** Chalazia, Meibomian Cyst, Diabetic Retinopathy, Hyperglycemia.

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## Introduction

A chalazion (also called chalazia or chalazions when multiple) or meibomian cyst [1] is a cyst in the eyelid usually due to a blocked meibomian gland,[2] typically in the centre of the eyelid, red, and not painful.[3] The variety of presentation may be from a benign, self-restricting nodule to a painful lid swelling. Sometimes it is complicated by corneal astigmatism and mechanical ptosis and though rarely but may grow in to carcinoma of meibomian gland. The treatment policy of Chalazia is to start with controlled conservatively with the use of heat compress and antibiotic eye ointment for the prevention of secondary bacterial infection. For continual lesions, incision and curettage (I&C), steroid injection and laser ablation remedy can be considered [4]. Diabetes mellitus on other hand defined as chronic metabolic disorder characterized by persistent hyperglycemia either due to inability to synthesize insulin or diminished efficacy of endogenous insulin due to resistance. It has the highest prevalence among the populations of developing countries and in migrant and minority communities in industrialized countries [5]. Diabetic eye disease is becoming an increasing problem in developing countries, due to longer life expectancy and a higher incidence of diabetes [5]. In the eye, diabetes affects almost every part – orbit and lids and both the anterior and posterior segments. Most previous authors have concentrated on diabetic retinopathy, [6,7] but this disease can affect virtually every part of the eye and sometimes can significantly affect vision. The association between diabetes mellitus with recurrent infections and chronic granulomatous lesions are well known through various literatures. Our intention of this study is to investigate the relationship between Chalazion with Diabetes mellitus.

## Material and Method

This will be a prospective study to investigate the relationship between Chalazion with Diabetes mellitus. After getting informed consent, 60 patients with the diagnosis of chalazia were included in the study. All of the 60 patients were investigated for diabetes. The diagnosis was based on classical symptoms of diabetes with laboratory investigations such as fasting blood sugar (more than 126mg/dL) and 2-hour postprandial blood sugar (more than 200mg/dL).

The inclusion standards blanketed patients of chalazion who consented for study and are in the age range of 35 to 55years. The exclusion standards covered people with eyelid infection, chalazion duration < 1 month, suspicion of malignancy, and patients with any other type of immunodeficiency.

All patients in this study were grouped in non-diabetic and diabetic patient; standard treatment

protocol was provided. And a weekly follow up was made till complete resolution of Chalazion to analyse the prognosis.

All tabulated data were expressed as means ± standard deviation. Statistical calculation done with the help of GraphPad t test calculator. Statistical significance was confined to P-value less than 0.05.

**Treatment protocol and follow up:** The two groups were not in contact with each other. Diabetic patient additionally treated with oral hypoglycemic drugs as prescribed by physician. Diabetic patients were further reviewed with fasting blood glucose level and stratified in two sub groups named diabetic patients with controlled blood glucose level and diabetic patients with poor controlled/ uncontrolled blood glucose level. All patients were given ofloxacin eye ointment two times per day to apply over the lesion. The patients were reviewed every weekly until complete resolution of the chalazion.

## Results

Among 60 patients 38 patients were found diabetic. 2 patients from non-diabetic group and 3 patients from diabetic group were than excluded upon findings suggestive of other cause of immunodeficiency. Among 35 study diabetic patients 15 were found poor controlled diabetic patients. Both the non-diabetic and diabetic groups were matched statistically similar baseline characteristics in terms of age, sex and mean chalazion size as shown in Table 1. The mean fasting blood glucose in the non-diabetic and diabetic group was 78.5 ± 15.5 and 142.5 ± 21.5 mg/dL, respectively. This difference is statistically significant.

All patients were of same ethnicity. There was no significant difference between the time taken for complete resolution of the chalazion between the non-diabetic (16 ± 6 days) and diabetic (20 ± 10 days) groups (P = 0.11) as shown in Table no.1. But there was significant difference between the time taken for complete resolution of the chalazion between the non-diabetic (14 ± 6 days) and poor controlled diabetic patients (24 ± 10 days) groups (P = 0.0058) as shown in table no.2.

**Table 1: Data obtained from study**

| | Non Diabetic (n = 20) | Diabetic Patients Total (n = 35) | P value |
|---|---|---|---|
| Mean age (years) | 40.5 ± 5.5 | 42.5 ± 10.5 | 0.433 |
| Sex (M/F) | 12/8 | 20/15 | - |
| Random Blood Sugar | 78.5 ± 15.5 | 142.5 ± 21.5 | 0.0001 |
| Mean chalazion size: length × width ($mm^2$) | 0.85 ± 0.4 | 0.87 ± 0.5 | 0.879 |
| Time to resolution (days) | 16 ± 6 | 20 ± 10 | 0.11 |

*Statistically significant p-value <0.005.

**Table 2: Data comparison from non-diabetic to poor control diabetic**

| | Non Diabetic (n = 20) | Uncontrolled Diabetic Patients (n = 15) | P value |
|---|---|---|---|
| Mean age (years) | 40.5 ± 5.5 | 43.5 ± 10.5 | 0.2809 |
| Sex (M/F) | 12/8 | 10/5 | - |
| Random Blood Sugar | 78.5 ± 15.5 | 155.5 ± 23.5 | 0.0001 |
| Mean chalazion size: length × width ($mm^2$) | 0.85 ± 0.4 | 0.86 ± 0.5 | 0.948 |
| Time to resolution (days) | 16 ± 6 | 24 ± 10 | 0.0058 |

## Discussion

Diabetes mellitus is a well-known global problem with the profound burden on developing countries. Diabetes mellitus causes damage, morbidity and mortality in various systems of the body. Former studies have been concentrated on diabetic retinopathy; however, it affects almost all layers of the eye. Chalazion is a common cause of lid inflammation and is self-limiting with conservative management [8]. Diabetes mellitus is a well-known risk factor for recurrent styes and multiple chalazia [9].

## Conclusion

In our study we found that there is no significant statistical relationship between diabetes and non-diabetes patients of chalazion with respect to size and time to resolution. But we found that poor control in diabetes patients takes longer time to resolved completely in comparison to non-diabetic patients with chalazion. However, our study size was not sufficient enough to establish causal relationship between diabetes and chalazion. As early detection and appropriate treatment of diabetic eye disease greatly reduce the risk of vision loss.

## References


1. John F, Salmon. "Eyelids". Kanski's Clinical ophthalmology (9 ed.). Elsevier. 39–41.
2. Eyelid Disorders Chalazion & Stye. National Eye Institute. 4 May 2010. Archived from the original on 18 October 2016. Retrieved 14 October 2016.
3. Carlisle, RT; Digiovanni, J (15 July 2015). Differential Diagnosis of the Swollen Red Eyelid. American Family Physician. 2015; 92 (2): 106–12. PMID 26176369.
4. L. D. Pizzarello, F. A. Jakobiec, A. J. Hofeldt, M. M. Podolsky, and D. N. Silvers, Intralesional corticosteroid therapy of chalazia, The American Journal of Ophthalmology, 1978; 85:6: 818–821.
5. King H, Rewers M. Diabetes in adults is now a third world problem. Bull WHO. 1991; 69(6): 643–648.
6. Nwosu SNN. Diabetic retinopathy in Nnewi. Nig J Ophthalmol. 2000;8(1):7–10.
7. Jenkins LM, Mayon-White VA. Screening for diabetic retinopathy. Community Eye Health. 1996; 9(2):54–56.
8. D. G. Cottrell, R. C. Bosanquet, and I. M. Fawcett, Chalazions: the frequency of spontaneous resolution, British Medical Journal, 1983; 287:6405: Article 1595.
9. Harvard Health Foundation. Styes. Available from:http://www.healthcentral.com/encyclopedia/408/709.html.