

Eyelid massage: Impact on clinical signs and Quality of Vision (QOV)

Study conducted at CATHEDRAL EYE CLINIC, BELFAST, NORTHERN IRELAND UK by Professor Jonathan E Moore FRCOPHTH, PhD and his research team.
Presented at XXXIV Congress of the ESCRS, Copenhagen, September 2016.

Introduction

The purpose was to determine the impact of eye massage on symptoms of Meibomian Gland Dysfunction (MGD). Change in quality of vision (QoV) score was also assessed.

Meibomian Gland Dysfunction (MGD) is considered to be the most common cause of evaporative dry eye. Evaporative dry eyes can potentially lead to aqueous-deficient dry eyes. Obstruction of the Meibomian Glands can also potentiate to posterior blepharitis.

The Eyepeace (CE marked, class 1 medical device) is a self-administered, personal eyelid massager. It expresses the Meibomian Glands of the eyelids as it glides in a unidirectional vertical motion. The Eyepeace provides a hygienic, ergonomic and non-invasive method for massaging the eyelids.



Figure 1: Eyepeace, eyelid massaging device

Methods

Inclusion:

Confirmed obstructive MGD-related evaporative dry eyes without evidence of aqueous deficiency were enrolled.

Study design:

Prospective comparative interventional cases series.

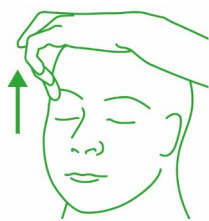
Sample size:

GROUP A: 60 eyes of 30 subjects received an Eyepeace device along with hot compress.

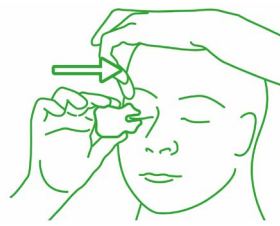
GROUP B: 30 age and gender matched control subjects did not receive Eyepeace device (only hot compress).

Intervention:

Patients used the Eyepeace for 2 minutes twice per day along with 5 minutes hot compresses over a 3 month period. Patients were advised to follow the method illustrated below.



1. If you have loose skin, lift the eyebrow.



2. Place eyepeace onto closed eyelids and gently but firmly squeeze the eyelid massager.



3. Squeeze and release, 5 – 10 times on each eye.

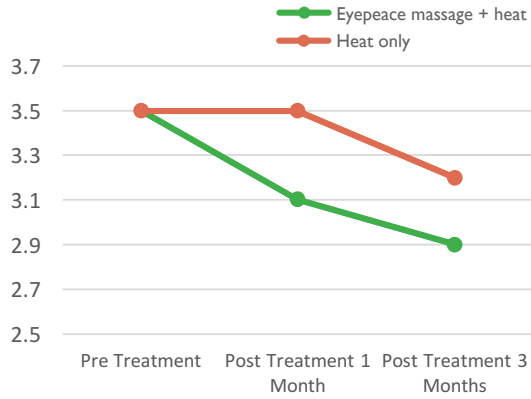
Observation Time:

3 months

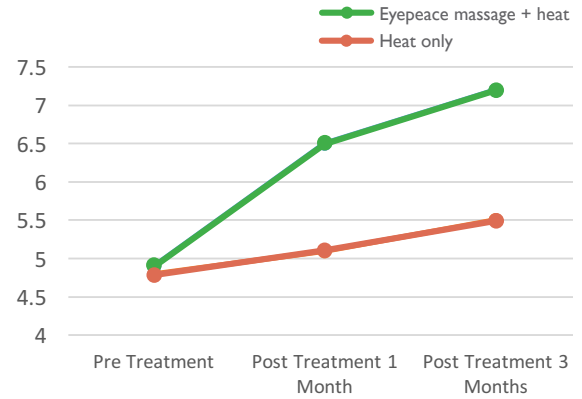
Mean Output Measurements

1. Tear lipid quality (Tear Scope), DR-1 Grading
2. Tear breakup time (s)
3. Fluorescein score (1 – 9)
4. Tear film osmolarity (TearLab)
5. Overall mean QoV questionnaire score
6. OSDI questionnaire score

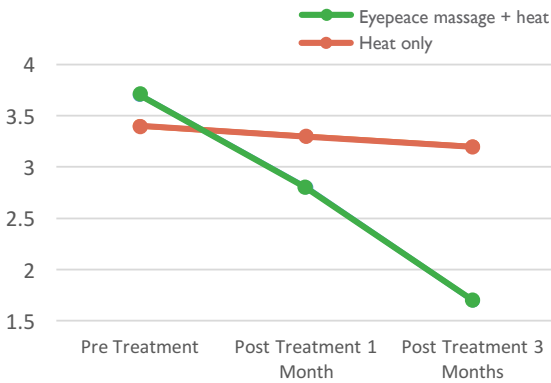
Results



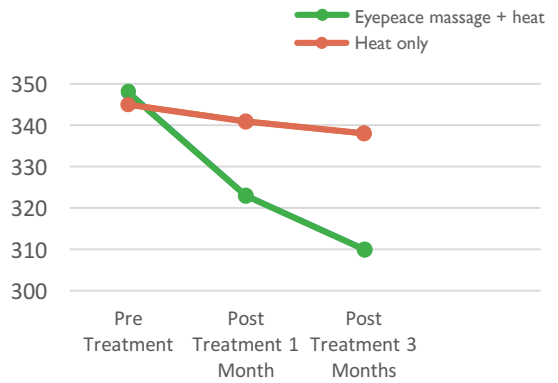
1. Tear lipid quality (Tear Scope), DR-1 Grading
1 = good lipid quality, 5 = poor lipid quality



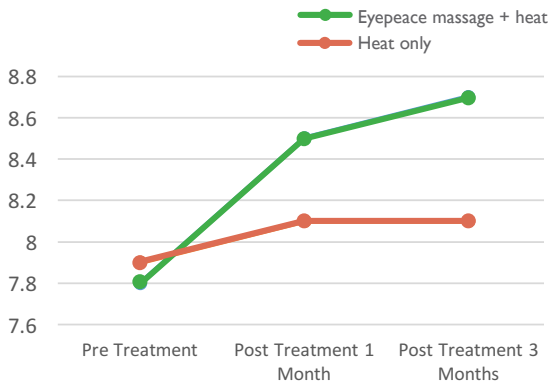
2. Tear breakup time (s)



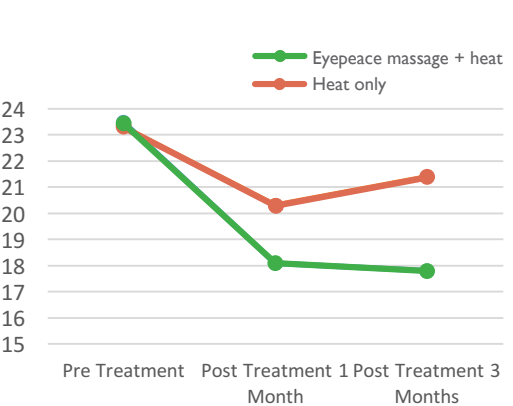
3. Fluorescein score (1 - 9)



4. Tear film osmolarity (TearLab)



5. Overall mean QoV questionnaire score



6. OSDI questionnaire score

Results

The results show that eyelid massage using the Eyepeace, plus heat improved dry eye symptoms in all 7 of the tests conducted. These results were statistically significant in 6 out of 7 dry eye tests.

Notably, tear lipid quality improved and was statistically significant in the Eyepeace massage group ($p < 0.05$). Mean corneal sensitivity, tear breakup time and tear lipid layer all improved with Eyepeace massage treatment.

Heat alone (without massage) did not show any statistically significant improvement in any of the dry eye tests conducted. None of the patients presented adverse effects caused by the treatment.

Conclusion

- Eyelid massage using the Eyepeace is an essential part of a dry eye management regime.
- Combined with hot compress, it is a good initial approach to managing dry eye due to Meibomian Gland Dysfunction.
- Eyelid massage using the Eyepeace was an effective and safe treatment for MGD.
- Eyepeace can be used on its own or combined with other routine dry eye treatments to help manage dry eye symptoms.

Professor Moore has financial interest in the eyepeace device.

www.eyepeace.org.uk