

## **Prevalence of meibomian gland dysfunction, dry eye and posterior blepharitis based on a population-based study (Hirado-Takushima Study) in Takushima Island in Japan**

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**Purpose:** To investigate the prevalence of meibomian gland dysfunction (MGD), dry eye (DE), posterior blepharitis (PB) in a population-based study (Hirado-Takushima Study) in Takushima Island in Japan. And to analyze the coincidence rate of MGD and DE, DE and PB, MGD and PB and all of these diseases.

**Methods:** A total of 356 residents of Takushima Island with an age range of 6 to 92 years. Participants filled in questionnaires regarding ocular symptoms, lid margin abnormalities (vascularity, plugging, irregularity, displacement of mucocutaneous junction, meiboscore, meibum grade, tear meniscus height, corneal and conjunctival fluorescein staining score, tear film breakup time with fluorescein, Schirmer test value were evaluated. MGD was defined as (1) the presence of more than one chronic ocular symptom; (2) more than one lid margin abnormalities, and (3) obstruction of meibomian glands as revealed by the detection of plugging and reduced meibum expression in response to moderate digital pressure in at least one eye. DE was defined according to the Japanese criteria of (1) the presence of more than one ocular symptoms and (2) an FTBUT of <5 s. PB was defined as having a vascularity of lid margin.

**Results:** Prevalence of MGD, DE and PB was 32.9 %, 33.4% and 27.8%, respectively. Coincidence rate of MGD and DE, DE and PB, MGD and PB was 12.9%. 11.2% and 16.6%, respectively. Coincidence rate of all 3 diseases was 5.9%.

**Conclusion:** MGD, DE and PB were common in Japan. About 10 % of 2 of 3 diseases were coexisted.