A Backgrounder on Dry Eye Disease

Dry Eye Disease

Dry eye disease, or keratoconjuctivis sicca, is a highly prevalent, multifactorial disease of the surface of the eye that is often chronic and may be progressive.[1,2] The disease is most commonly associated with eye dryness and overall eye discomfort, as well as stinging, burning, fluctuating blurry vision[1] or excess tearing.[3] Dry eye disease may significantly affect quality of life and may impact patients' daily activities.[4]

Dry eye disease is highly associated with inflammation that may eventually lead to damage of the surface of the eye.[5] Traditionally, dry eye disease was thought to be due to a deficit in tear production; however, the vast majority of dry eye disease is not solely due to a deficit in tear production.[6]

Prevalence

Dry eye disease is one of the most common conditions seen by optometrists and may affect up to 29 per cent of Canadians.[7] An eye care professional can diagnose dry eye disease based on signs and symptoms and determine management options, which could include the use of a prescription treatment.

Signs and Symptoms

The signs of dry eye disease include corneal staining and eye dryness which can be objectively evaluated by eye care professionals through various tests.[8] Patient-reported symptoms vary, but are most commonly described as eye dryness and overall eye discomfort, and may also include a feeling of stinging or burning in the eyes, or episodes of fluctuating blurry vision.[1]

Risk factors

Aging and gender are recognized as traditional risk factors of dry eye disease while modern risk factors include prolonged digital/computer screen time, contact lens wear and cataract or refractive surgery.[9,10]

The prevalence of dry eye disease increases with age and is nearly twice as common in women than in men over 50.[8,11] Several different facets of modern life can increase people's risk of developing dry eye disease. Risk factors include:

- Certain diseases such as those that affect parts of the body that produce fluids like tears and saliva (e.g. Sjogren's syndrome)[11]
- Hormonal changes, such as during menopause[12]
- Certain drugs or medications[13]
- Diets deficient in Omega-3[14]
- Contact lens wear[15]
- Prolonged computer or digital screen use[9]
- Laser eye surgery[10]
- Certain environments such as those with low humidity, or where there are fans[16]

Role of Inflammation

Inflammation can address a key role in the development of dry eye disease or make existing symptoms worse.[17] Eye surface stress from multiple factors including reading, wearing contact lenses and prolonged screen use, can aggravate the surface of the eye leading to further inflammation.[5,18]

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Diagnosis

Eye care professionals can diagnose dry eye disease based on patient reported symptoms as well as signs, which can be objectively evaluated through various tests and patient questionnaires.[1]

Patient experience

The disease is most commonly associated with eye dryness and overall eye discomfort, as well as stinging, burning, fluctuating blurry vision[1] or excess tearing.[3] The disease significantly affects vision-related quality of life and may impact activities such as reading, using computers, driving and watching television.[4]

In addition, given that dry eye disease is highly prevalent among people of working age, its impact on work productivity could be substantial. In particular, dry eye disease has been linked to impaired work performance among office workers, which may lead to a substantial loss to industry.[19]

Treatment options

Current management options in Canada include the use of non-prescription (e.g. lubricating drops, often known as "artificial tears" and ointments) or prescription treatments.

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