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Oftalmolojik Rahatsızlıklarda Yeni Bir Tanım: İhmal Edilen Göz Sendromu(İES-22)

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ÖZ

Amaç: Fizyolojik sebepli ortaya çıkan lagoftalmi problemine yeni bir tanımlama getirerek, erken tanı ve doğru tedavi konusuna pozitif katkı sağlamaktır.

Tasarım: IES-22, dışlama ve tanı kriterleri belirlenirken diğer lagoftalmi sebepleri ile karşılaştırıldı ve tamamen ayrı bir tanımlama yapıldı. IES-22 kesin tanısı için dışlama kriterlerinin olmaması, majör kriterlerden en az 1, minör kriterlerinden en az 2 bulgu olması yeterli görüldü.

Metot: IES-22 dışlama kriterleri:Gözler, göz kapakları ve orbitada, lagoftalmiye neden olan herhangi bir patolojik durumun olması şeklinde belirlendi. IES-22 tanı kriterleri majör ve minör olarak ikiye ayrıldı. Majör kriterler primer, minör kriterler ise sekonder sebepler olarak kabul edildi. Majör kriterler: Göz kapakları vertikal küçüklüğü, konjenital exoftalmisi olmak, alt-üst göz kapaklarının limbusu örtmemesi, alt orbita kenarının normalden daha aşağıda alması ve iri gözlü olmak (buftalmus). Minör kriterler: Aile öyküsü olmak, ışık açıkken uyuyamamak, sabah ilk uyandığında gözde yabancı cisim hissi, göz ağrısı bulunması ve gözde sulanma görülmesi, olarak belirlendi. Ayrıca, IES-22 derecelendirmesi; Grade I (hafif), Grade II (orta) ve Grade III (ağır) şeklinde yapıldı.

Sonuç: IES-22, göz açık uyuma vakalarında yeni bir tanımlama olabilir. Altta yatan herhangi bir hastalık olmaması ve uzun süre günlük yaşantımızı etkilememesi sebebiyle göz ardı edilme özelliğine sahiptir. Ayrıca IES-22 majör kriterleri içerisinde konjenital etkenlerin olması, genetik zeminli klinik araştırmalar yapılmasını da uygun kılmaktadır.

Anahtar Kelimeler: IES-22, görmezlikten gelme, göz açık uyuma, göz bozuklukları

A New Definition in Ophthalmological Disorders: Ignored Eye Syndrome (IES-22)

Abstract

Objective: To provide a positive contribution to early diagnosis and correct treatment by bringing a new definition to the problem of lagophthalmos that occurs due to physiological reasons.

Design: IES-22 was compared with other causes of lagophthalmos when determining exclusion and diagnostic criteria, and a completely separate definition was made. For the definitive diagnosis of IES-22, in the absence of exclusion criteria, at least 1 of the major criteria and at least 2 of the minor criteria were considered sufficient.

Method: IES-22 exclusion criteria were defined as the presence of any pathological condition in the eyes, eyelids, and orbit causing lagophthalmos. The IES-22 diagnostic criteria were divided into major and minor. Major criteria were accepted as primary and minor criteria were considered as secondary causes. Major criteria: Vertical small eyelids, congenital exophthalmos, lower and upper eyelids not covering the limbus, lower orbital rim lower than normal, and large eyes (buphthalmus). Minor criteria: Having a family history, not being able to sleep when the light is on, foreign body sensation in the eye when first waking up in the morning, eye pain and watering in the eye were determined. Also, IES-22 rating; It was performed as Grade I (mild), Grade II (moderate) and Grade III (severe).

Conclusion: IES-22 may be a new definition in cases of sleeping with eyes open. Since there is no underlying disease and it does not affect our daily life for a long time, it has the feature of being ignored. In addition, the presence of congenital factors within the IES-22 major criteria makes it appropriate to conduct clinical studies based on genetics.

Keywords: IES-22, ignored, lagophthalmia, ophthalmological disorders

1. Introduction

When people sleep, they sleep with their eyelids completely closed like a normal physiological phenomenon. This event prevents the eye from drying out and being damaged by external factors. On the other hand, while sleeping, the anterior surface of the eye (corneal epithelium and conjunctiva) is fed by the vessels under the lid, and fluid and oxygen exchanges are made. In this way, our eyes are both moist and nourished. Thus, when people wake up, their eyes are rested and fed, and they are ready for daytime work. While this should be the case in normal individuals with healthy eyes, sometimes we may be going through a troublesome process without realizing it. Moreover, the secret hero of this process may be sleeping with eyes open (lagophthalmia). Since there is no underlying pathological condition, we may not have noticed it for a long time and ignored the minor discomforts (tearing, feeling of a foreign body in the eye, etc.). Our idea of defining IES-22 has emerged in the light of these detections.

A New Definition: Ignored Eye Syndrome-22 (IES-22)

"Luo et al. (1999); Zhang et al. (2014); According to Yip et al. (2005)" among the causes of lagophthalmos: surgical interventions to the eye, paralytic causes or endocrinological diseases such as Graves' disease are shown. They have been the subject of research for a long time. "Korula et al. (1995); Valdéz-de la Torre et al. (1999); According to Kievit et al. (2018)" in addition, lagophthalmos can be seen in some rare genetically transmitted syndromes. Our aim is not to repeat an already known and researched symptom. We aim to define lagophthalmos as a syndrome that has been admitted to our ophthalmology clinic in recent years and has been ignored for a long time because there is no underlying disease. In the definition process of Ignored Eye Syndrome-22 (IES-22), the word "ignored" was particularly preferred. Because, in IES-22, lagophthalmos is generally ignored because it is not a result of any disease. That is until complications arise and adversely affect daily life. In this definition, the number 22 represents the year it was defined (2022).

Design

IES-22: In lagophthalmia without any disease (facial paralysis, ptosis, stroke, graves

disease, orbital tumor, cranial tumors and eye trauma, and others) that causes eye open sleep; it is a syndrome that occurs due to the eyelids remaining slightly, partially or entirely open. Since IES-22 does not affect daily life at first and is not an underlying disease, it is often ignored and goes unnoticed. If there is no one to follow the patient while he is asleep, this situation continues. That is until unexplained eye complaints occur. On the other hand, the diagnosis of IES-22 can be easily made by an experienced physician with a detailed anamnesis and physical examination. In IES-22, Although it is not a disease, the eyelids cannot be closed while falling into a deep sleep and remain partially or entirely open, most of the time bilaterally. This openness is not noticed for a long time and is ignored because it does not cause serious disturbances. However, as time progresses, the variety and severity of complaints increase. Among these complications, dry eye, foreign body sensation in the eye, redness in the eyes, blurred vision (especially after waking up), not being able to sleep in a light environment, and feeling tired despite sleeping for hours are among the leading ones.

Could IES-22 be a syndrome?

As it is known, the syndrome; is the whole of the findings that seem to be unrelated to each other, but when they come together, they show themselves as a single phenomenon. "Robin (2000)" is a disorder that may include ocular manifestations such as Stickler Syndrome, myopia, cataracts, and retinal detachment. The diagnosis of Stickler syndrome is clinically based, just like IES-22. There are currently no consensus minimal clinical diagnostic criteria for Stickler syndrome.

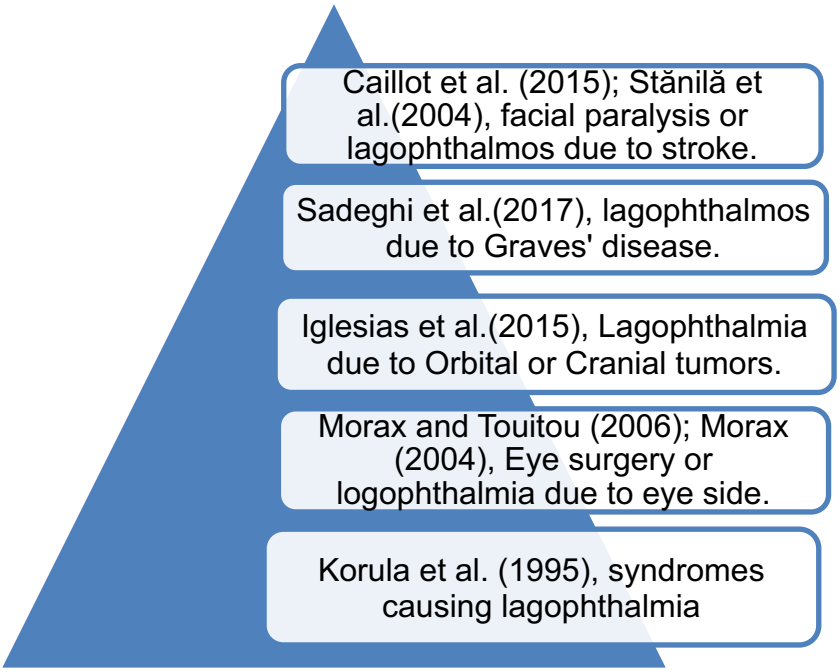
Another reason why IES-22 is called a syndrome is that it causes multi-systemic complications in an insidious way as a physiological condition that is ignored for a long time and goes unnoticed. Severe stress management disorders, distractibility, and intellectual-academic deficiencies can also be seen in lagophthalmos patients with IES-22. In our opinion, in this respect, it is likely that IES-22 patients will be the subject of extensive research in the future. Arora et al.(2021), because research on sleep quality disorders confirms us. In addition, the poor sleep quality of IES-22 patients may disrupt the hormonal balance by negatively affecting the circadian rhythm during the night. "Erland

et al. (2017)", as a matter of fact, studies have shown the interactions of sleep and hormonal balance.

2. Materials and Method

IES-22 exclusion criteria were defined as the presence of any pathology causing lagophthalmos in the eyes and eyelids orbit. These pathologies; include facial paralysis, stroke, graves disease, orbital tumor, cranial tumors, surgical procedures, and eye trauma. In addition, some rare syndromes were also considered among the causes of pathological lagophthalmos (Figure 1).

Figure 1. IES-22 exclusion criteria



Model application

The IES-22 diagnostic criteria were analyzed under two headings major and minor.

Major criteria: Small eyelids, congenital exophthalmos, protrusion of the lower and upper eyelids together or separately outside the limbus, lower orbital border than normal, and large eyes.

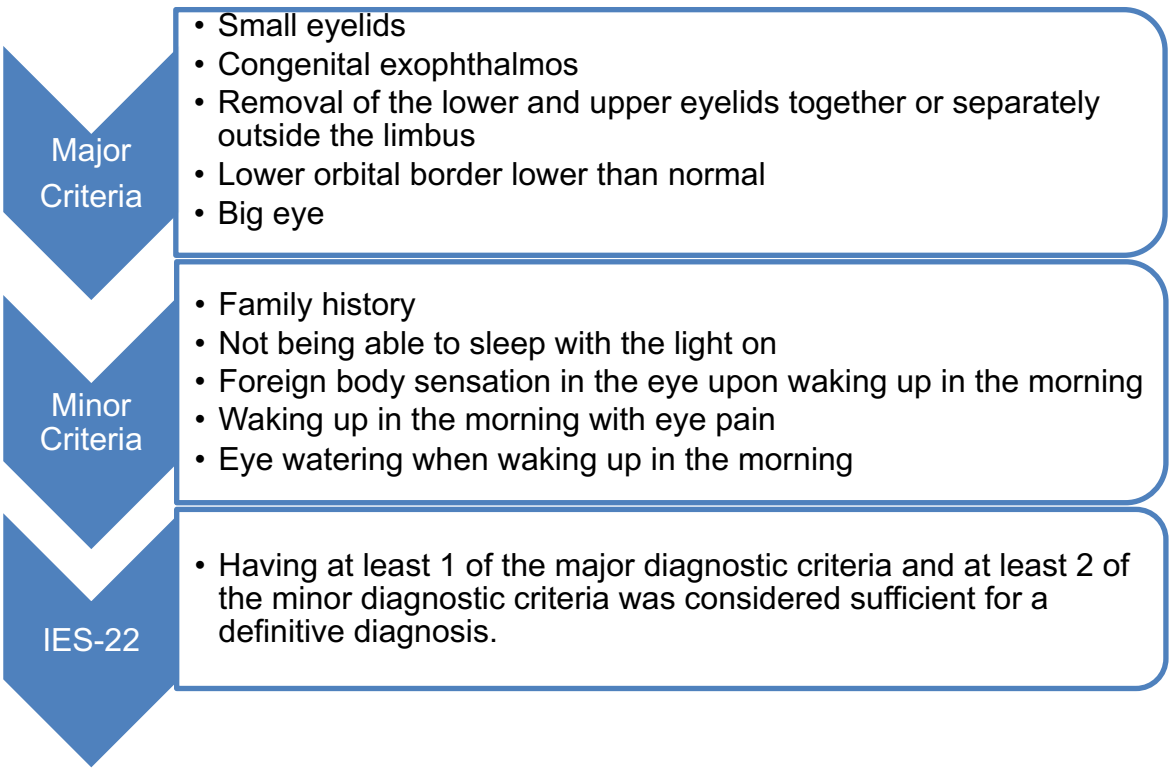
Minor criteria:

Having a family history, not being able to sleep with the light on, waking up first in the

morning, foreign body sensation in the eye, presence of eye pain, and watering in the eye was determined.

Minor criteria were created from secondary symptoms because these symptoms can also be seen in other causes of lagophthalmos other than IES-22. For a definitive diagnosis of IES-22, at least 1 of the major criteria and at least 2 of the minor criteria were considered sufficient (Figure 2).

Figure 2. The IES-22 diagnostic criteria are represented schematically.



IES-22 lagophthalmos grades

Grade grading of eye aperture in patients diagnosed with IES-22 can be easily done by an ophthalmologist. Grade classification was made in three groups according to the degree of eye opening. These; Grade I (mild): if the lower quadrant remains open until the limbus is visible while the patient is asleep (6 o'clock limbus), Grade II (middle): if the lower edge of the pupil is visible while the patient is asleep, and Grade III (severe): part of the pupil or if all remains open (Figure 3).

Figure 3.The IES-22 lagophthalmos grades

Grade I Mild	Grade II Middle	Grade III Severe
• Keeping the eye open enough to see the limbus in the lower quadrant during sleep (6 o'clock limbus)	• Keeping the eye open enough to expose the lower edge of the pupil during sleep	• Keeping the eye open during sleep with the pupil partially or completely open

Treatment recommendations in patients with lagophthalmia caused by IES-22.

Our primary goal in the treatment of lagophthalmos is to prevent keratitis or secondary dryness and to eliminate the loss of eyelid function. It is equally essential for the patient to have a cosmetically acceptable appearance. "Pereira et al. (2010)" recommends moisturizing drops and ointments for the clinical treatment of nocturnal lagophthalmos. Our proposal for IES-22 is similarly qualified. The procedures for correcting eyelid misposition suggested by Latkany et al. (2006) also partially overlap with our treatments. However, the treatment procedures we propose for IES-22 are versatile and offer more opportunities for accurate and timely diagnosis, relief of patient suffering, and prevention of severe ocular surface pathology. We can collect our IES-22 treatment recommendations under five headings.

Conservative treatments can be grouped under five main headings:

1. Application of classical keratitis or eye dryness treatment according to the patient's eye condition. For this, It is appropriate to apply local antibiotics (drops, cream), artificial tears (drops, gels), and light non-steroidal drops.

2. Use a sleeping strip while sleeping. The aim is to apply pressure to the lids and prevent eye dryness and light discomfort by bringing the lower and upper lids closer together.

3. Using therapeutic contact lenses when needed.

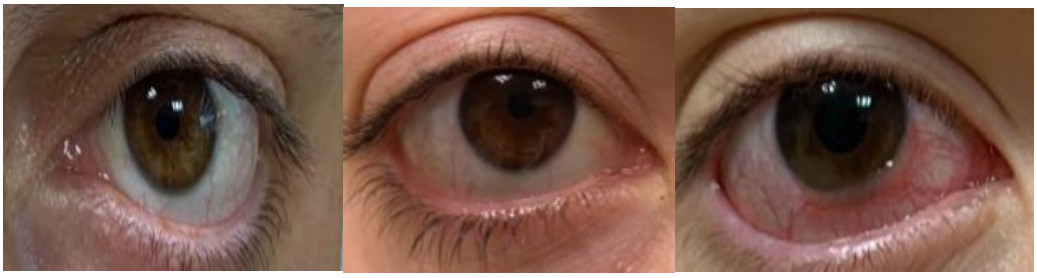
4. Performing the exercise of pulling the lower lid up by frequently blinking and squeezing the eyelids.

5. To increase the quality of tears; It is important to massage around the lid (increase blood circulation), regularly consume sufficient water, and use iron and vitamins (vitamin A, beta

carotene).

In addition to the conservative treatments applied to IES-22 patients, it is essential to use sunglasses regularly, protect them from light and wind, avoid direct contact with air conditioners, and prefer more humid environments.

Eye photographs of some of our cases diagnosed with IES-22



Photographing and use in academic studies were carried out with the consent of the patients.

3. Conclusion

Suitability to Clinical Practice

The term lagophthalmos is the first thing that comes to mind when sleeping with one's eyes open. “Serrat et al., 1998; Stănilă et al., 2004; Araújo et al., 2019” still, it should be noted that the etiology of lagophthalmos is mostly facial nerve palsy and orbicular muscle dysfunction. However, there is no disease in the etiology of IES-22, which we defined for the first time in the literature. Although IES-22 patients continue their daily lives, they live under severe stress. This situation negatively affects their work life and family life. Even so, if IES-22 is diagnosed early in ophthalmology clinics, many complications can be prevented before they even begin. Therefore, IES-22 is an easily preventable cause of lagophthalmos with a high degree of relevance to clinical practice.

As a result, IES-22 is a new definition in lagophthalmia cases and has the feature of being ignored since there is no underlying disease and it does not affect our daily life for a long time. On the other hand, IES-22; deserves serious research on it with its early diagnosis and accessible treatment features. In addition, IES-22 should also be evaluated in terms of genetics since there are hereditary factors among its major criteria.

*Conflict of Interest*Conflict of Interest

No conflict of interest has been declared by the author.

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