

TURKISH JOURNAL OF OPHTHALMOLOGY

TURKISH JOURNAL OF OPHTHALMOLOGY

TJO

Research Articles

Readability and Appropriateness of Responses Generated by ChatGPT 3.5, ChatGPT 4.0, Gemini, and Microsoft Copilot for FAQs in Refractive Surgery

Aydın et al.; İstanbul, Türkiye

Effects of Lotrafilcon A and Senofilcon A Bandage Contact Lenses on Visual Outcome and Ocular Comfort After Photorefractive Keratectomy

Yakar and Alaçamlı. Ankara, Muğla, Türkiye

Publication Rates of Oculoplastic Surgery and Orbit Abstracts Presented at Turkish Ophthalmological Association National Congresses: 10-Year Analysis

Erdoğan and Yüksel. Ankara, Türkiye

The Ability of Large Language Models to Generate Patient Information Materials for Retinopathy of Prematurity: Evaluation of Readability, Accuracy, and Comprehensiveness

Postacı and Dal. Hatay, Türkiye

The Efficacy of Adalimumab Treatment in Pediatric Non-Infectious Uveitis: A Retrospective Cohort Study

Özdemir Yalçınsoy et al.; Ankara, Kastamonu, Türkiye

Review

The Role of In Vivo Confocal Microscopy in Ocular Allergies

Şimşek et al.; Muğla, Türkiye; Tokyo, Japan

Case Reports

An Unusual Case of Low Vision and Anisocoria Considered a Neurological Finding in the Emergency Department: Ocular Siderosis

Özen and İnal Özen. Kastamonu, Türkiye

Management of Orbital Granulomatous Polyangiitis Presenting with Lacrimal Gland Involvement: Treatment of Subsequent Peripheral Ulcerative Keratitis, Anterior Uveitis, and Exudative Retinal Detachment in a Challenging Case

Oklar et al.; İstanbul, Türkiye

Nd:YAG Laser Application for the Treatment of Retained Lens Fragment in the Anterior Chamber Following Cataract Surgery

Koçer et al.; Ankara, Türkiye

Letter to the Editor

Letter to the Editor Re: Evaluation of Medically Reversible Limbal Stem Cell Deficiency

Daungsupawong and Wiwanitkit. Phonhong, Lao People's Democratic Republic; Chennai, India

Reply to Letter to the Editor Re: Evaluation of Medically Reversible Limbal Stem Cell Deficiency

İlayda Korkmaz, Nihat Furkan Eratlıgan, Melis Palamar, Sait Eğrilmez, Ayşe Yağcı, Özlem Barut Selver; İzmir, Türkiye

TURKISH JOURNAL OF OPHTHALMOLOGY

TJO



www.offtalmoloji.org

Editor-in-Chief

BANU BOZKURT, MD

Selçuk University Faculty of Medicine, Department of Ophthalmology, Konya, Türkiye

Areas of Interest: Cornea and Ocular Surface Disease, Glaucoma, Allergy and Immunology

E-mail: drbanubozkurt@yahoo.com

ORCID ID: orcid.org/0000-0002-9847-3521

Associate Editors

SAIT EĞRİLMEZ, MD

Izmir University of Economics Faculty of Medicine, İzmir, Türkiye

Areas of Interest: Cornea and Ocular Surface Disease, Contact Lens, Refraction, Cataract and Refractive Surgery

E-mail: saitegrilmez@gmail.com

ORCID ID: orcid.org/0000-0002-6971-527X

HAKAN ÖZDEMİR, MD

Bezmialem Vakıf University Faculty of Medicine, Department of Ophthalmology, İstanbul, Türkiye

Areas of Interest: Medical Retina, Vitreoretinal Surgery

E-mail: hozdemir72@hotmail.com

ORCID ID: orcid.org/0000-0002-1719-4265

NILGÜN YILDIRIM, MD

Eskişehir Osmangazi University Faculty of Medicine, Department of Ophthalmology, Eskişehir, Türkiye

Areas of Interest: Glaucoma, Cornea and Ocular Surface, Oculoplastic Surgery

E-mail: nyildirim@yahoo.com

ORCID ID: orcid.org/0000-0001-6506-0336

ÖZLEM YILDIRIM, MD

Mersin University Faculty of Medicine, Department of Ophthalmology, Mersin, Türkiye

Areas of Interest: Uveitis, Medical Retina, Glaucoma

E-mail: dryildirimo@hotmail.com

ORCID ID: orcid.org/0000-0002-3773-2497

Statistics Editor

AHMET DİRİCAN,

İstanbul University İstanbul Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul, Türkiye

English Language Editor

JACQUELINE RENEE GUTENKUNST, MARYLAND, USA

Advisory Board

Özgül ALTINTAŞ,

Acıbadem University Faculty of Medicine, Department of Ophthalmology, İstanbul, Türkiye

Erdinç AYDIN,

Izmir Katip Çelebi University Atatürk Training and Research Hospital, Clinic of Ophthalmology, İzmir, Türkiye

Atilla BAYER,

Clinic of Ophthalmology, Dünyagöz Hospital, Ankara, Türkiye

Jose M. BENÍTEZ-del-CASTILLO,

Universidad Complutense de Madrid, Hospital Clinico San Carlos, Department of Ophthalmology, Madrid, Spain

M. Pinar ÇAKAR ÖZDAL,

Ankara Medipol University Faculty of Medicine, Department of Ophthalmology, Ankara, Türkiye

Murat DOĞRU,

Keio University Faculty of Medicine, Department of Ophthalmology, Tokyo, Japan

Ahmet Kaan GÜNDÜZ,

Ankara University Faculty of Medicine, Department of Ophthalmology, Ankara, Türkiye

Elif ERDEM,

Çukurova University Faculty of Medicine, Balcalı Hospital Department of Ophthalmology, Adana, Türkiye

Ömer KARTI,

Izmir Democracy University, Buca Seyfi Demirsoy Hospital, İzmir, Türkiye

Tero KIVELÄ,

University of Helsinki, Helsinki University Hospital, Department of Ophthalmology, Helsinki, Finland

Sibel KOCABEYOĞLU,

Hacettepe University Faculty of Medicine, Department of Ophthalmology, Ankara, Türkiye

Anastasio G.P. KONSTAS,

Aristotle University of Thessaloniki, Department of Ophthalmology, Thessaloniki, Greece

Sedef KUTLUK,

Private Practice, Ankara, Türkiye

Anat LOEWENSTEIN,

Tel Aviv University Sackler Faculty of Medicine, Department of Ophthalmology, Tel Aviv, Israel

Mehmet Cem MOCAN,

University of Illinois at Chicago, Department of Ophthalmology and Visual Sciences, Chicago

Halit OĞUZ,

İstanbul Medeniyet University Faculty of Medicine, Department of Ophthalmology, Göztepe Training and Research Hospital, İstanbul, Türkiye

Ayşe ÖNER,

Acıbadem Healthcare Group, Kayseri Acıbadem Hospital, Kayseri, Türkiye

Altan Atakan ÖZCAN,

Çukurova University Faculty of Medicine, Department of Ophthalmology, Adana, Türkiye

H. Nida ŞEN,

George Washington University, National Eye Institute, Department of Ophthalmology, Washington, USA

Sinan TATLIPINAR,

Yeditepe University Faculty of Medicine, Department of Ophthalmology, İstanbul, Türkiye

Zeliha YAZAR,

University of Health Sciences Türkiye Ankara City Hospital MHC Building Eye Units Division, Ankara, Türkiye

Bülent YAZICI,

Private Practice, Bursa, Türkiye

Publishing House

Molla Gürani Mah. Kaçamak Sokak No: 21, 34093 Fındıkzade-İstanbul-Türkiye

Publisher Certificate Number: 14521

Phone: +90 (530) 177 30 97

E-mail: info@galenos.com.tr

Online Publishing Date: December 2024

International scientific journal published bimonthly.

E-ISSN: 2149-8709



The Turkish Journal of Ophthalmology is an official journal of the Turkish Ophthalmological Association.

On Behalf of the Turkish Ophthalmological Association Owner

Hüban ATİLLA

Ankara University Faculty of Medicine, Department of Ophthalmology, Ankara, Türkiye

TURKISH JOURNAL OF OPHTHALMOLOGY

TJO



www.ofthalmoloji.org

Please refer to the journal's webpage (<https://www.ofthalmoloji.org/>) for "About Us", "Instructions to Authors" and "Ethical Policy".

The editorial and publication process of the Turkish Journal of Ophthalmology are shaped in accordance with the guidelines of ICMJE, WAME, CSE, COPE, EASE, and NISO. The journal adheres to the Principles of Transparency and Best Practice in Scholarly Publishing.

The Turkish Journal of Ophthalmology is indexed in **PubMed/MEDLINE, PubMed Central (PMC), Web of Science-Emerging Sources Citation Index (ESCI), Scopus, TÜBİTAK/ULAKBİM, Directory of Open Access Journals (DOAJ), EBSCO Database, Gale, CINAHL, Proquest, Embase, British Library, Index Copernicus, J-Gate, IdealOnline, Türk Medline, Hinari, GOALI, ARDI, OARE, AGORA, and Turkish Citation Index.**

Issues are published electronically six times a year.

Owner: Hüban ATİLLA on Behalf of the Turkish Ophthalmological Association Owner

Responsible Manager: Banu BOZKURT

CONTENTS

Research Articles

- 313 Readability and Appropriateness of Responses Generated by ChatGPT 3.5, ChatGPT 4.0, Gemini, and Microsoft Copilot for FAQs in Refractive Surgery
Fahri Onur Aydın, Burakhan Kürşat Aksoy, Ali Ceylan, Yusuf Berk Akbaş, Serhat Ermiş, Burçin Kepez Yıldız, Yusuf Yıldırım; İstanbul, Türkiye
- 318 Effects of Lotrafilcon A and Senofilcon A Bandage Contact Lenses on Visual Outcome and Ocular Comfort After Photorefractive Keratectomy
Konuralp Yakar, Göksu Alaçamlı; Ankara, Muğla, Türkiye
- 324 Publication Rates of Oculoplastic Surgery and Orbit Abstracts Presented at Turkish Ophthalmological Association National Congresses: 10-Year Analysis
Yusuf İktbal Erdoğan, Nilay Yüksel; Ankara, Türkiye
- 330 The Ability of Large Language Models to Generate Patient Information Materials for Retinopathy of Prematurity: Evaluation of Readability, Accuracy, and Comprehensiveness
Sevinç Arzu Postacı, Ali Dal; Hatay, Türkiye
- 337 The Efficacy of Adalimumab Treatment in Pediatric Non-Infectious Uveitis: A Retrospective Cohort Study
Kübra Özdemir Yalçınsoy, Osman Özen, Yasemin Özdamar Erol, Pınar Çakar Özdamar; Ankara, Kastamonu, Türkiye

Review

- 344 The Role of In Vivo Confocal Microscopy in Ocular Allergies
Cem Şimşek, Takashi Kojima, Murat Doğru; Muğla, Türkiye; Tokyo, Japan

Case Reports

- 354 An Unusual Case of Low Vision and Anisocoria Considered a Neurological Finding in the Emergency Department: Ocular Siderosis
Osman Özen, Menekşe İnal Özen; Kastamonu, Türkiye
- 358 Management of Orbital Granulomatous Polyangiitis Presenting with Lacrimal Gland Involvement: Treatment of Subsequent Peripheral Ulcerative Keratitis, Anterior Uveitis, and Exudative Retinal Detachment in a Challenging Case
Murat Oklar, Elif Sarı, Hatice Selen Kanar, Hikmet Süslü, Tufan Çiftçi, Mehmet Engin Tezcan; İstanbul, Türkiye
- 364 Nd:YAG Laser Application for the Treatment of Retained Lens Fragment in the Anterior Chamber Following Cataract Surgery
Ali Mert Koçer, Bekir Eren Aksoy, Özge Uysal; Ankara, Türkiye

Letter to the Editor

- 369 Letter to the Editor Re: Evaluation of Medically Reversible Limbal Stem Cell Deficiency
Hinpetch Daungsupawong, Viroj Wiwanitkit; Phnomhng, Lao People's Democratic Republic; Chennai, India
- 370 Reply to Letter to the Editor Re: Evaluation of Medically Reversible Limbal Stem Cell Deficiency
İlayda Korkmaz, Nihat Furkan Eratılğan, Melis Palamar, Sait Eğrilmez, Ayşe Yağcı, Özlem Barut Selver; İzmir, Türkiye

Index

- 2024 Referee Index
2024 Author Index
2024 Subject Index

AT A GLANCE

2024 Issue 6 at a Glance:

Esteemed colleagues,

In its sixth and final issue of 2024, the Turkish Journal of Ophthalmology features five original research articles, a review, three case reports, and a letter to the editor with the authors' response.

This issue includes two studies on large language models (LLM), which represent an important development in artificial intelligence technology. Although using these chat models as a source of medical information is becoming increasingly common, the accuracy and comprehensibility of their answers to medical questions are a cause of controversy. In fact, there has been an increase in research in this field in recent years. In their study on this topic, Aydın et al. posed 40 frequently asked questions in refractive surgery to four different language models (ChatGPT 3.5, ChatGPT 4.0, Gemini, and Microsoft Copilot chatbots), and the answers were evaluated in terms of suitability and readability by two experienced refractive surgeons. The Gemini chatbot had the highest response accuracy rate (87.5%), followed by Copilot (60%), ChatGPT 4.0 (52.5%), and ChatGPT 3.5 (45%). In terms of readability, it was reported that all LLM responses were very difficult to read and at a university reading level. The authors concluded that the Gemini chatbot was the best in terms of accuracy and had relatively better readability, and that patients should be warned that LLM chatbots can occasionally give inappropriate answers (See pages 313-317).

In their prospective study titled "Effects of Lotrafilcon A and Senofilcon A Bandage Contact Lenses on Visual Outcome and Ocular Comfort After Photorefractive Keratectomy", Yakar and Alaçamlı compared the effect of two different silicone hydrogel bandage contact lenses (BCL) on visual rehabilitation and ocular comfort after photorefractive keratectomy. The study included 30 patients who received a lotrafilcon A BCL in one eye and senafilcon A BCL in the other eye postoperatively. The lenses were removed on postoperative day 5, and subjective symptoms of ocular discomfort during this period were evaluated. The eyes were also compared in terms of spherical equivalent (SE) at postoperative 15 days and 1 month. While there was no difference between the BCLs in terms of ocular discomfort scores ($p>0.05$), a difference was noted in terms of SE values at postoperative day 15 and 1 month ($p<0.05$), with better visual rehabilitation in eyes that received senofilcon A lenses (See pages 318-323).

Erdogdu and Yüksel investigated the publication rates of abstracts related to oculoplastic surgery and the orbit presented at Turkish Ophthalmology Association (TOA) national congresses between 2013 and 2022. Of 802 abstracts evaluated, 24% of the 233 studies presented orally were published, whereas only 11.6% of the 569 studies presented as posters were published ($p<0.05$). When the presentations were evaluated in terms of content, it was found that the publication rate was higher for clinical studies than case reports (21.8% vs. 6.3%) ($p<0.05$). The researchers pointed out that only 15.2% of studies presented over the 10-year period became publications, and emphasized that in order to increase the scientific publication potential in Türkiye, negative factors should be identified, problems should be eliminated, and clinicians should be supported in this regard (See pages 324-329).

The second study on LLM featured in this issue was conducted by Postacı and Dal. Retinopathy of prematurity (ROP) is among the main causes of childhood blindness and can be prevented with early diagnosis, continuous follow-up, and rapid appropriate treatment. It is essential for families to be aware of the importance of their infants' follow-up and treatment. In fact, the TOA prepared an ROP information guide on this subject. However, patients' families must be able to read and understand the information in the guide. In this study, the researchers compared the responses of the LLMs GPT-4.0, GPT-4o mini, and Gemini to 30 questions from the ROP guide prepared by the TOA. The readability of the TOA ROP guide and the chatbots' responses were analyzed using the Ateşman and Bezirci-Yılmaz formulas, and their comprehensiveness and accuracy were evaluated by ROP experts. The reading level of the TOA brochure was above the 6th-grade reading level recommended in the literature, while the reading levels of the materials produced by GPT-4.0 and Gemini were found to be significantly lower ($p<0.05$). In terms of accuracy and scope, GPT-4.0 had the highest scores and Gemini had the lowest scores. As a result, the authors pointed out that GPT-4.0 has the potential to provide more readable, accurate, and comprehensive content in the production of patient information materials, but regional medical differences may also be important and influential in the use of LLMs in the field of health (See pages 330-336).

In their study titled "The Efficacy of Adalimumab Treatment in Pediatric Non-Infectious Uveitis: A Retrospective Cohort Study", Yalçınsoy et al. retrospectively reviewed the records of 91 patients under the age of 16 years diagnosed with pediatric non-infectious uveitis (NIU) and evaluated the efficacy of adalimumab (ADA) treatment in 103 eyes of 53 patients who were unresponsive to conventional immunosuppressive therapy. The patients used ADA for at least one year, and their best-corrected visual acuity (BCVA), intraocular inflammation severity, uveitis attack frequency, topical and systemic corticosteroid use, and central macular thickness were evaluated before and after ADA treatment. Most patients (49%) had anterior uveitis, 41.5% had intermediate uveitis, and 9.4% had panuveitis. Follow-up times ranged from 18-120 months and the duration of ADA use was 18-60 months. Uveitis

AT A GLANCE

attack frequency, intraocular inflammation severity, topical and systemic corticosteroid dose, and mean CMT values were found to be significantly lower after ADA treatment ($p<0.05$), while BCVA was increased. The authors stated that ADA was generally used at the standard dose, but 22% of the patients were treated weekly. Intraocular inflammation was controlled in 83% of the patients with weekly administration. Noting the difficulties in the diagnosis and management of pediatric uveitis and stating that management is challenging due to the high risk of complications and vision loss, the authors emphasized that ADA is effective in improving visual outcomes and controlling intraocular inflammation in pediatric NIU and reduces the need for systemic and topical corticosteroids (See pages 337-343).

The review of this issue, penned by Şimşek et al., is titled "The Role of In Vivo Confocal Microscopy in Ocular Allergies" and addresses the ocular surface changes that occur in atopic keratoconjunctivitis (AKK) and vernal keratoconjunctivitis (VKK) with rich visuals obtained using in vivo confocal microscopy (IVCM), an imaging technique that enables noninvasive, real-time imaging of the corneal and conjunctival layers. The authors examined in detail the use of IVCM in determining the pathogenesis, facilitating diagnosis, and monitoring treatment response in AKK and VKK (See pages 344-353).

Özen and İnal Özen present the case of a patient who presented to the emergency department after noticing a decrease in vision and enlarged pupil in one eye. An eye consultation was requested after neurological evaluation and magnetic resonance imaging (MRI). On ophthalmologic examination, a metallic foreign body was detected in the eye, and it was determined that the patient had a history of ocular trauma two months earlier. The authors highlighted the importance of ophthalmology consultation before neurological examination in anisochoric patients, pointing out the risks associated with MRI in these cases due to the possibility of foreign bodies (See pages 354-357).

Oklar et al. report on a 63-year-old male patient diagnosed with granulomatous polyangiitis (GPA) who presented with lacrimal gland involvement, describing the different ocular pathologies that developed later and discussing the differential diagnosis and treatment approaches. They emphasized that early diagnosis and aggressive treatment are vital in GPA, a rare autoimmune disease characterized by necrotizing granulomas and vasculitis involving the respiratory tract and kidneys (See pages 358-363).

Lens remnants can be seen in the anterior chamber in the early or late period after cataract surgery can cause inflammation, high intraocular pressure, and corneal edema. Koçer et al. present two patients in which they used neodymium-doped yttrium aluminum garnet (Nd:YAG) laser to eliminate lens fragments and reported resorption of the lens fragments within the first day after the procedure, with no complications (See pages 364-368).

In their letter to the editor, Daungsupawong and Wiwanitkit expressed their views on an article by Korkmaz et al. titled "Evaluation of Medically Reversible Limbal Stem Cell Deficiency", stating that the article presented important information about the medical treatment of limbal stem cell deficiency (LSCD) but that some aspects should be critically examined. They noted that the study sample was small and heterogeneous in terms of age and LSCD etiology and that a single treatment strategy was not sufficient to generalize, and they desired a more detailed explanation of the treatment applied. The authors raised several questions regarding the effect of LSCD etiology on treatment response, which features of patients with complete LSCD regression can be used to guide future treatment decisions, and what long-term results can be expected from various medical treatments, especially for ocular rosacea and blepharitis, emphasizing the need for randomized controlled studies evaluating LSCD at the molecular level, planning targeted treatment, and including patients' long-term outcomes (See pages 369-370).

In response, Korkmaz et al. stated that the low case number was a result of including only patients with reliable data due to the retrospective nature of their study. They stated that LSCD can have different etiologies and that implementing a personalized and step-wise treatment protocol is preferable over a single strategy for all patients, but noted that their article aimed to highlight that restoring limbal homeostasis may allow the LSCD to be treated without the need for further surgical intervention, especially in certain etiologies. They stated that in their study, anti-inflammatory and lubrication therapy were accepted as the most appropriate medical approach and that data analysis was conducted accordingly. The authors noted that although this study was meant to draw clinicians' attention to reversible LSCD with a limited number of cases, they aimed to conduct more comprehensive studies focusing on molecular mechanisms, as suggested by Daungsupawong and Wiwanitkit in their letter. They concurred that prospective randomized controlled trials would help answer questions about the medical treatment approach to LSCD (See pages 370-371).

As we bid farewell to the year 2024 with these valuable scientific articles including original research, review, case reports, and letter to the editor, we hope that the new year brings health, happiness, and peace to the world.

Respectfully on behalf of the Editorial Board,

Nilgün Yıldırım, MD