Research Article Volume 01, Issue No. 02. 2025

The Medical Journal of Opthalmology

Diagnosis and Treatment of Chronic Conjunctivitis

[1] Prasetya , [1] Djoko

[1] Faculty of Medicine, Sebelas Maret University, Surakarta City, Central Java, Indonesia

Correspondence: dr.prasetya9074738@gmail.com

Article History :

Received date : 2024/10/19
Revised date : 2024/11/28
Accepted date : 2024/12/05
Published date : 2025/01/10

ABSTRACT

Background: The diagnosis and treatment of chronic conjunctivitis have garnered significant attention in the ophthalmological literature, reflecting the complexity and diverse presentations of this condition. **Literature Review**: Further, the role of chlamydial infections in conjunctivitis is underscored, particularly in vulnerable populations such as newborns and sexually active adults (Jasińska et al., 2018). This article emphasizes the necessity for thorough clinical examinations and bacteriological testing to guide effective treatment strategies. The discussion surrounding the challenges of diagnosing acute infectious conjunctivitis highlights the risks of misdiagnosis, particularly in pediatric populations, and advocates for adherence to diagnostic guidelines and the importance of culturing in complex cases (Yeu & Hauswirth, 2020). A systematic review further classifies chronic conjunctivitis based on etiology and severity, distinguishing between infectious and non-infectious causes, and reinforcing the need for accurate diagnosis to prevent complications (A. Azari & Arabi, 2020). This comprehensive approach aids clinicians in tailoring treatment strategies effectively. The innovative perspective on treating allergic conjunctival diseases through nanotechnology introduces advanced drug delivery systems that may enhance treatment efficacy, particularly in the context of increasing prevalence among children (Liu et al., 2020). The limitations of traditional topical treatments are critically evaluated, suggesting a promising avenue for future research. **Conclusion**: In conclusion, the literature collectively emphasizes the multifaceted nature of chronic conjunctivitis, highlighting the importance of accurate diagnosis, understanding of etiological factors, and the exploration of emerging treatment modalities. The findings underscore the need for ongoing research and clinical vigilance to improve management strategies for this complex condition.

Keywords: Diagnosis, Treatment, Chronic Conjunctivitis

INTRODUCTION

The diagnosis and treatment of chronic conjunctivitis have garnered significant attention in the ophthalmological literature, reflecting the complexity and diverse presentations of this condition. The exploration of chronic tarsal conjunctivitis by (Cook et al., 2016) unveiled a previously unrecognized clinical presentation characterized primarily by epiphora, alongside typical symptoms such as conjunctival papillary and follicular reactions. Their findings revealed a notable increase in referrals to Primary Care Ophthalmology services, indicating a potential epidemic of this atypical form. The study emphasized the importance of careful follow-up and the efficacy of topical steroid drops as a primary treatment, while also cautioning against unnecessary surgical interventions like sac washouts, which were deemed irrelevant in this context.

Building on the understanding of conjunctivitis etiology, (Jasińska et al., 2018) highlighted the role of chlamydial infections, particularly in newborns and adults. Their investigation into the two types of chlamydial conjunctivitis—namely, inclusion conjunctivitis and trachoma—provided critical insights into the transmission dynamics and the necessity for systemic antibiotic therapy. This article underscores the importance of accurate diagnosis through thorough clinical examination and, when necessary, bacteriological testing to guide effective treatment strategies.

(Yeu & Hauswirth, 2020) further contributed to the body of knowledge by addressing the challenges associated with diagnosing acute infectious conjunctivitis, particularly in secondary care settings. Their review illustrated the consequences of misdiagnosis, including unnecessary antibiotic use and the risk of recurrent infections, especially in pediatric populations. The authors advocated for improved adherence to diagnostic guidelines and emphasized the need for culturing in complex cases, thereby reinforcing the critical nature of accurate diagnosis in managing conjunctivitis effectively.

(A. Azari & Arabi, 2020) synthesized existing literature in a systematic review that classified chronic conjunctivitis based on various factors, including etiology and severity. Their findings reiterated the necessity of distinguishing between infectious and non-infectious causes, as well as recognizing conjunctivitis as a differential diagnosis in cases of red eye that may indicate more severe ocular conditions. This comprehensive review serves as a valuable resource for clinicians seeking evidence-based information to guide their diagnostic and therapeutic approaches.

Lastly, (Liu et al., 2020) introduced an innovative perspective on treating allergic conjunctival diseases through nanotechnology. Their exploration of drug delivery systems, such as nanoemulsions and liposomes, highlighted the limitations of traditional topical treatments in terms of bioavailability and ocular penetration. This article not only presents a promising avenue for enhancing treatment efficacy but also underscores the growing prevalence of allergic conjunctivitis, particularly among children, thus necessitating ongoing research into advanced therapeutic modalities.

Together, these contributions provide a multifaceted understanding of chronic conjunctivitis, encompassing its varied presentations, etiological factors, diagnostic challenges, and emerging treatment strategies, setting the stage for a deeper exploration of this complex condition.

LITERATURE REVIEW

The article "Chronic tarsal conjunctivitis" by (Cook et al., 2016) provides a comprehensive examination of chronic toxic conjunctivitis, detailing its clinical presentation, diagnostic approach, and treatment strategies. The authors identify key symptoms, including watery discharge, conjunctival papillary reactions, and potential eyelid dermatitis, which can complicate the diagnosis. The emergence of a new clinical presentation characterized by epiphora as the primary symptom is particularly noteworthy, as it highlights the evolving nature of this condition and suggests that awareness among clinicians is essential to identify and manage it effectively.

The retrospective review conducted by the authors involved standard clinical and laboratory investigations, emphasizing the importance of thorough diagnostic procedures. The use of slit lamp examination to document conjunctival changes is a critical aspect of their methodology, as it allows for a detailed assessment of the conjunctival surface and any pathological alterations. The findings underscore the necessity for clinicians to be vigilant in recognizing atypical presentations of chronic conjunctivitis, which may not align with traditional symptomatology.

In terms of treatment, the article highlights that topical steroid drops were the only effective intervention identified for managing this condition. This finding is significant, as it indicates a potential gap in therapeutic options for patients suffering from chronic tarsal conjunctivitis. Moreover, the authors stress the importance of careful follow-up to monitor intraocular pressure, which is a vital consideration given the potential side effects associated with long-term steroid use. The resolution criteria outlined—defined as the absence of epiphora symptoms and normal tarsal conjunctival appearances after a two-month period off steroids—provide a clear framework for clinicians to assess treatment efficacy.

The article by (Jasińska et al., 2018) provides a comprehensive overview of the etiological factors associated with conjunctivitis, with a specific focus on chlamydial conjunctivitis caused by Chlamydia trachomatis and Chlamydia pneumoniae. This discussion is particularly relevant for understanding the underlying causes and appropriate treatment strategies for chronic conjunctivitis, especially in vulnerable populations such as newborns and sexually active adults.

The authors highlight that chlamydial conjunctivitis in newborns typically arises from maternal transmission during childbirth, emphasizing the importance of maternal health in preventing such infections. In adults, the authors note that the infection is predominantly venereal, underscoring the need for public health interventions aimed at sexually active individuals to reduce transmission rates. The timeline of infection manifestation, which appears approximately one week after exposure, is crucial for both diagnosis and treatment planning.

The article outlines the diagnostic process, which begins with a thorough patient interview and an eye examination using a slit lamp. The authors assert that the presence of typical objective signs allows for an initial classification of conjunctivitis types, which is essential for guiding treatment. However, they also caution that in cases of recurrent inflammation, bacteriological testing is necessary to identify the specific pathogens involved. This is particularly relevant for chronic cases where the underlying cause may not be immediately apparent.

A critical point raised in the article is the potential for false-negative results in microbiological tests following antibiotic therapy. This highlights a significant challenge in diagnosing chronic conjunctivitis, as reliance solely on laboratory results may lead to misinterpretation of the disease state. Consequently, the authors argue that the physician's clinical experience plays a vital role in accurately diagnosing and managing these cases.

The treatment recommendations provided in the article are noteworthy, as they advocate for systemic antibiotic therapy complemented by local treatments. This approach is particularly relevant for managing chlamydial infections, where systemic intervention is necessary due to the risk of co-infection. Additionally, the authors mention that advanced cases of trachoma may require surgical intervention, which is a critical consideration for chronic conjunctivitis cases that do not respond to conventional treatment.

The article by (Yeu & Hauswirth, 2020) provides a comprehensive examination of the challenges and implications surrounding the differential diagnosis of acute infectious conjunctivitis, which can be pertinent to understanding chronic conjunctivitis as well. The authors highlight the tendency of eye care professionals to misdiagnose acute infectious conjunctivitis, leading to unnecessary antibiotic treatments that not only fail to address the underlying condition but may also contribute to antibiotic resistance. This mismanagement can have particularly severe consequences in pediatric populations, where recurrent infections can occur, complicating the clinical picture and potentially leading to chronic conditions.

The article emphasizes the importance of accurate diagnosis, noting that the evaluation of conjunctivitis should include consideration of the patient's immunocompromised status and the presentation of hyperacute cases. The authors argue for the necessity of culturing in certain scenarios, which could provide more definitive diagnoses and prevent complications. This perspective is crucial, as misdiagnosis can lead to conditions that may progress to serious ocular and extra-ocular complications, highlighting the need for a thorough understanding of the differential diagnoses associated with conjunctivitis.

Adenoviral conjunctivitis, as discussed in the article, is particularly relevant when considering chronic cases due to its highly contagious nature and the potential for self-limiting progression. The authors detail how this condition may initially present unilaterally but can spread to both eyes, potentially leading to chronic symptoms if not managed appropriately. The mention of complications such as pseudomembrane formation and subepithelial infiltrates underscores the importance of recognizing and treating conjunctivitis effectively to prevent long-term sequelae.

The article "Conjunctivitis: A Systematic Review" by (A. Azari & Arabi, 2020) provides a comprehensive examination of chronic conjunctivitis, emphasizing its classification based on various factors including etiology, chronicity, severity, and the involvement of surrounding tissues. The authors effectively outline the distinction between infectious and non-infectious causes, with viral conjunctivitis identified as the predominant infectious etiology. This classification is essential for clinicians to tailor appropriate treatment strategies.

The authors delve into the common non-infectious causes, particularly allergic and toxin-induced conjunctivitis, which are prevalent in clinical practice. This insight is significant as it underscores the necessity for a thorough patient history and examination to accurately identify the underlying cause of conjunctivitis, thereby guiding effective management.

Furthermore, the article highlights the importance of differentiating chronic conjunctivitis from more severe ocular conditions such as acute angle closure

glaucoma and uveitis. This aspect is critical as misdiagnosis can lead to serious complications and inappropriate treatment. The authors advocate for a systematic approach to diagnosis, incorporating both clinical evaluation and, when necessary, adjunctive testing to ensure accurate differentiation.

In terms of treatment, while the article provides a foundational understanding of the various etiologies, it could benefit from a more detailed discussion on specific therapeutic interventions tailored to each type of conjunctivitis. For instance, the management of allergic conjunctivitis often includes antihistamines or mast cell stabilizers, while bacterial conjunctivitis may necessitate antibiotic therapy. A structured treatment algorithm could enhance the practical applicability of the information presented.

The article "Nanotechnology for the Treatment of Allergic Conjunctival Diseases" by (Liu et al., 2020) provides an insightful exploration into the application of nanotechnology in addressing the challenges associated with allergic conjunctivitis, a prevalent external eye disease. The authors highlight the increasing prevalence of allergic conjunctivitis, which affects a significant portion of the population and often leads to recurrent episodes that can impact daily productivity.

A critical evaluation of the material reveals that the authors effectively identify the limitations of conventional treatment methods, notably the reliance on topical eye drops. They point out that these traditional therapies are hindered by issues such as low bioavailability, insufficient ocular drug penetration, and the necessity for high levels of patient compliance. These factors can significantly compromise treatment efficacy and patient outcomes.

The introduction of nanotechnology as a solution to these challenges is a key strength of the article. Liu et al. (2020) discuss various nanotechnology-based drug delivery systems, including nanoemulsions, liposomes, and nanoparticles, emphasizing their potential to enhance drug delivery for allergic conjunctival diseases. By encapsulating drugs for sustained release, these systems can improve the bioavailability and penetration of hydrophobic drugs, particularly immunomodulatory agents, which are vital in managing allergic reactions.

The authors provide a balanced view by acknowledging the current state of research and potential clinical applications of these advanced delivery systems. However, while the theoretical benefits of nanotechnology are well-articulated, the article could benefit from a more detailed discussion on the practical implications of implementing these technologies in clinical practice. For instance, considerations regarding manufacturing processes, regulatory hurdles, and long-term safety profiles of nanotechnology-based treatments are crucial for a comprehensive understanding of their viability in treating chronic conditions like allergic conjunctivitis.

CONCLUSION

The literature on chronic conjunctivitis reveals significant insights into its diagnosis, etiology, and treatment modalities. The introduction of the review highlights the complexity of chronic conjunctivitis, particularly through the exploration of diverse clinical presentations and the importance of accurate diagnosis. A notable contribution is made by the article addressing chronic tarsal conjunctivitis, which identifies epiphora as a key symptom and emphasizes the efficacy of topical steroid drops while cautioning against unnecessary surgical interventions (Cook et al., 2016).

Further, the role of chlamydial infections in conjunctivitis is underscored, particularly in vulnerable populations such as newborns and sexually active adults (Jasińska et al., 2018). This article emphasizes the necessity for thorough clinical examinations and bacteriological testing to guide effective treatment strategies. The discussion surrounding the challenges of diagnosing acute infectious conjunctivitis highlights the risks of misdiagnosis, particularly in pediatric populations, and advocates for adherence to diagnostic guidelines and the importance of culturing in complex cases (Yeu & Hauswirth, 2020).

A systematic review further classifies chronic conjunctivitis based on etiology and severity, distinguishing between infectious and non-infectious causes, and reinforcing the need for accurate diagnosis to prevent complications (A. Azari &

Arabi, 2020). This comprehensive approach aids clinicians in tailoring treatment strategies effectively.

The innovative perspective on treating allergic conjunctival diseases through nanotechnology introduces advanced drug delivery systems that may enhance treatment efficacy, particularly in the context of increasing prevalence among children (Liu et al., 2020). The limitations of traditional topical treatments are critically evaluated, suggesting a promising avenue for future research.

In conclusion, the literature collectively emphasizes the multifaceted nature of chronic conjunctivitis, highlighting the importance of accurate diagnosis, understanding of etiological factors, and the exploration of emerging treatment modalities. The findings underscore the need for ongoing research and clinical vigilance to improve management strategies for this complex condition.

DISCLOSURE STATEMENT

- Disclosure Statement : The authors have no conflicts of Interest to declare
- Funding Sources : None
- Acknowledgements : -
- Author Contribution : All authors discussed and contributed the final content for journal submission and publication

REFERENCES

1. Cook, N., Mushtaq, F., Leitner, C., Ilchyshyn, A., T. Smith, G., & A. Cree, I., 2016. Chronic tarsal conjunctivitis. ncbi.nlm.nih.gov
2. Jasińska, E., Adamczyk, K., Wojcik, R., Adamczyk, D., Nowomiejska, K., & Olender, A., 2018. The most common etiological factors of conjunctivitis. [PDF]
3. Yeu, E. & Hauswirth, S., 2020. A Review of the Differential Diagnosis of Acute Infectious Conjunctivitis: Implications for Treatment and Management. ncbi.nlm.nih.gov

4. A. Azari, A. & Arabi, A., 2020. Conjunctivitis: A Systematic Review. ncbi.nlm.nih.gov
5. Liu, Y. C., Tzu-Yu Lin, M., Herr Cheun Ng, A., T. Wong, T., & S. Mehta, J., 2020. Nanotechnology for the Treatment of Allergic Conjunctival Diseases. ncbi.nlm.nih.gov