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DIVERGENCES IN PROPHYLAXIS AND TREATMENT OF NEONATAL OPHTHALMIA: A LITERATURE REVIEW

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Abstract: Introduction: Neonatal ophthalmia is a conjunctivitis of newborns associated with irreversible visual loss if immediate intervention is not provided. It arises from the presence of maternal sexually transmitted infections of bacterial origin - mainly Chlamydia Trachomatis and N. Gonorrhoeae. Methodology: A literature review of articles was carried out, in English and Portuguese, from the last 5 years, present in the PubMed and VHL databases, with the descriptors ´´((ophthalmia neonatorum)) AND (preventing) AND (prophylaxis). **Results:** A total of 16 works that met the selection criteria were selected. Studies have shown divergences in which measures, prophylactic or medicinal, are recommended by various global organizations. **Conclusion:** Due to the scarcity of literature on the topic, the lack of standardization involving the prophylaxis and treatment of neonatal ophthalmia is evident and the importance of more studies on this subject is highlighted.
Keywords: Neonatal Ophthalmia; Secondary Prevention; Pre-Exposure Prophylaxis; Medical Practice Guideline.

INTRODUCTION

Neonatal ophthalmia is a conjunctivitis that affects newborns up to the first 28 days of life. It has an incidence of 1 to 12% in all newborns, and may increase in countries with epidemiologies more consistent with the causative agents. Typically, countries with lower human development indices, associated with a higher incidence of sexually transmitted infections (STIs), have the highest prevalence. It is present through vertical transmission, as a result of vaginal birth, when the mother is infected by the bacteria Neisseria Gonorrhoeae and Chlamydia Trachomatis. The possibilities of transmission to the fetus, when there is maternal contamination, vary from 30 to 50%. Furthermore, low birth weight is an additional risk factor (Castro Ochoa, K. J., & Mendez, M. D., 2023).

Among the complications of this pathology, the possibility of corneal perforation and ulceration stands out, which, consequently, end up generating permanent visual loss - especially in cases related to N. Gonorrhoeae, which have a lower prevalence compared to Chlamydia. Despite not having the supremacy in relation to the etiology of neonatal ophthalmia, gonorrhea is the second largest sexually transmitted bacterial infection in the world, being asymptomatic in practically half of females (Castro Ochoa, K. J., & Mendez, M. D., 2023).

As a mechanism to reduce the incidence of neonatal ophthalmia and resolve it early, in 1800, the first prophylaxis involving eyelid cleansing adding a topical solution of Silver Nitrate was institutionalized. Currently, this measure has joined with the arrival of other antibiotic methods, with the aim of providing treatment with better reliability and effectiveness, seeding debates regarding the cost-benefit involved in their use (Malik, A. N. J., & Gilbert, C., 2022).

METHOD

Systematic review based on articles taken from the following databases: Pubmed and VHL. Such articles were searched using the descriptors: ´´ (ophthalmia neonatorum)) AND (preventing) AND (prophylaxis)``. From this search, works from the last 5 years written in English and Portuguese were filtered. Of the 23 articles viewed, 6 were excluded because they addressed specific socioeconomic contexts of regions that were not relevant for this work and 1 because it contained only one statement. Given these exclusion criteria, there were 16 works that were analyzed in detail.

DISCUSSION

When based on the semantics of the word prophylaxis, measures that prevent the appearance of a certain outcome are highlighted. In this case, a set of actions that contribute to the eradication of neonatal ophthalmia.

The recommendation of the Canadian Society of Pediatrics stands out, demonstrating that prenatal screening of mothers for the presence of STIs, followed by treatment for those that require it, is the main prophylactic measure. Furthermore, there are other institutions, such as the United States Preventive Services Taskforce (USPSTF), which recommend screening for gonorrhea for the sexually active female population under 25 years of age or pregnant women, as it is the agent with the greatest prognostic severity (Ocular Prophylaxis for Gonococcal Ophthalmia Neonatorum: Recommendation Statement, 2019).

Clearly, such measures are easier to implement in developed countries in terms of accessibility and technology in health, making practical adoption in underdeveloped countries difficult. Therefore, the World Health Organization (WHO) continues to recommend topical ocular prophylaxis, providing the following options: Tetracycline Hydrochloride 1%, Erythromycin 0.5% ointment, Povidone Iodine 2.5%, Silver Nitrate 1% or Chloramphenicol 1%. (Auriti, Cinzia et al., 2021)

Another indication found in the literature is that of the Center for Disease Control and Prevention (CDC), which recommends the use of Erythromycin ointment or Azithromycin solution as a routine choice. This guideline is based on the argument that the options are effective and low-cost (Castro Ochoa, K. J., & Mendez, M. D., 2023).

Brazilian prophylactic methods were put to the test based on research based on questionnaires that were answered in 24 national states. The conclusion was the majority use of antibiotic medications from birth until the first hour of life. The predominant drug used was 1% Silver Nitrate, corresponding to 64% of the antimicrobials used. Then, comprising a smaller percentage, there is Povidone Iodine 2.5% and Silver Vitelinate 10% (Malik, A. N. J., & Gilbert, C., 2022).

Considering the main medication used in Brazil, a considerable warning is given regarding the complications that can be triggered, as there is a 50% possibility of developing chemical conjunctivitis in newborns - a condition that can also cause keratitis and/or corneal ulcers. if there is late intervention (Malik, A. N. J., & Gilbert, C., 2022).

CONCLUSION

In conclusion, the limitation of research on the topic stands out, encouraging a new debate about which guidelines should be universally adopted. Clearly, implementing routine population screening methods becomes the alternative with less harm involved and with greater effectiveness for eradicating neonatal ophthalmia, but its full application would denote mapping, monitoring of patients for long periods and collaboration of society in general. Regarding medications, clinical tests that compare currently used medications could define universally applicable prophylaxis or treatment. The medicine of choice should ideally combine: easy availability, single dose application, low associated risks and high efficacy. Finally, it is essential to carry out more research on the topic so that the ideal treatment can be implemented, avoiding the untimely outcomes of this disease.

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