Scientific Research Publishing

Open Journal of Ophthalmology, 2024, 14, 143-148
https://www.scirp.org/journal/ojoph
ISSN Online: 2165-7416
ISSN Print: 2165-7408

Morning Glory Syndrome or Bindweed Flower Papilla Syndrome

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How to cite this paper: Assoumou, P.A., Mouinga Abayi, D.A., Mboussou, Y., Kougou Ntoutoume, A., Nyinko Aboughe, H., Matsanga, O., Mba Aki, T.H. and Mve Mengome, E. (2024) Morning Glory Syndrome or Bindweed Flower Papilla Syndrome. *Open Journal of Ophthalmology*, **14**, 143-148.
https://doi.org/10.4236/ojoph.2024.142014

Received: August 21, 2023
Accepted: May 20, 2024
Published: May 23, 2024

Abstract

Introduction: Morning Glory Syndrome (MGS) is a rare anomaly of the optic nerve characterized by a flower-shaped excavation in the optic disc. This anatomical peculiarity is of growing interest due to its impact on vision and the therapeutic challenges it presents. Despite research advances, gaps persist, requiring thorough exploration to better understand this rare condition. We present the case of a young girl. **Observation:** A 7-year-old girl presented with persistent deterioration of vision in the right eye since birth. Visual acuity was counting fingers at 2 meters in the right eye and 10/10 in the left eye. Biomicroscopy was normal in both eyes, and fundus examination revealed a funnel-shaped excavation at the optic disc of the right eye, associated with central glial proliferation, thin blood vessels in a radial distribution, and atrophy of the neuroretinal rim. Additional tests confirmed the diagnosis of isolated unilateral Morning Glory Syndrome in the right eye. Combined treatment included appropriate optical correction and functional rehabilitation. Regular ophthalmological follow-up over a one-year period was established to monitor visual acuity evolution, optic disc stability, and detect any potential complications. The reserved prognosis was marked by the absence of ocular complications and maintenance of initial visual acuity in the right eye. **Conclusion:** The positive response to management underscores the importance of an integrated approach, early diagnosis, therapeutic adherence, and personalized strategies.

Keywords

Morning Glory, Anomaly, Congenital, Disc, OCT

1. Introduction

Morning Glory Syndrome (MGS) is a rare condition of the optic nerve that intrigues with its unusual manifestation, characterized by a flower-shaped excavation in the optic disc. This anomaly garners significant interest in the medical field due to its diagnostic and therapeutic challenges [1]. Despite previous advancements noted by pioneers such as Reis (1908), Kinder (1970), and Kumar (2021), areas of uncertainty persist, prompting further exploration [2] [3] [4]. This clinical observation presents a valuable opportunity to delve into promising avenues, including underlying genetic links, potential risk factors, and therapeutic implications. In accordance with ethical principles, parental consent was obtained for the publication of this case report. Thus, we present the case of a 7-year-old girl who presented with vision impairment in her right eye since birth. This study aims to enrich our understanding of MGS while contributing to the enhancement of medical practice and the well-being of affected patients.

2. Observation

A 7-year-old girl presented due to decreased visual acuity in her right eye, present since birth. No personal or family history was noted during the interview. Visual acuity was counting fingers at 2 meters in the right eye and 10/10 in the left eye. Anterior segment examination was normal in both eyes, and intraocular pressure was 12 mmHg bilaterally. Fundus examination revealed a large funnel-shaped excavation at the optic nerve head in the right eye, with central glial proliferation, thin blood vessels in a radial distribution forming a wheel-like pattern covering 2/3 of the optic disc, and atrophy of the neuroretinal rim (**Figure 1**). Additional tests confirmed the diagnosis. Angiography of the right eye showed vessels without perfusion abnormalities, while optical coherence tomography (OCT) ruled out any morphological abnormalities of the optic nerve or cranioencephalic region (**Figure 2**). The diagnosis made was isolated unilateral Morning Glory Syndrome. Management began with optical correction tailored to the vision of the right eye to optimize visual quality. Subsequently, orthoptic rehabilitation was initiated to enhance the child's visual capabilities and alleviate symptoms related to MGS. Regular ophthalmological follow-up extended over a one-year period, during which periodic examinations assessed changes in visual acuity, monitored optic disc stability, and promptly detected any potential ocular complications, including retinal detachment and glaucoma. The prognosis of this clinical case appears favorable, marked by the absence of ocular complications and maintenance of visual stability in the right eye. Vigilant monitoring contributes to assessing the psychosocial impact and quality of life of the patient, thus offering better management of this rare condition.

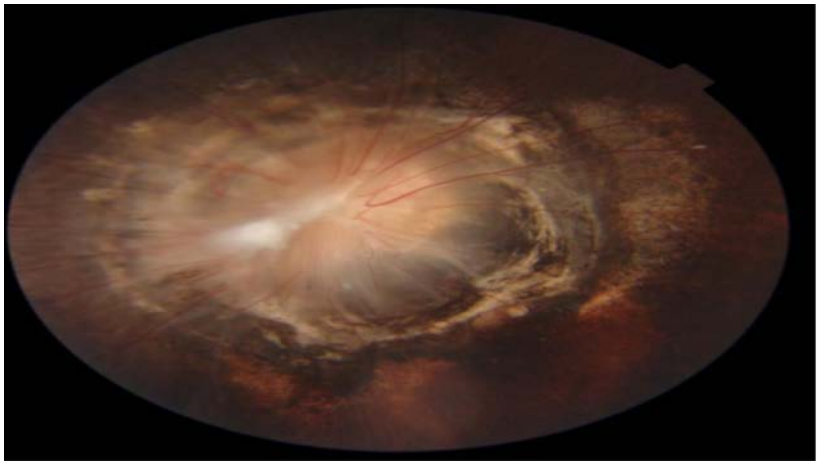

Figure 1. Morning Glory Syndrome in the right eye.

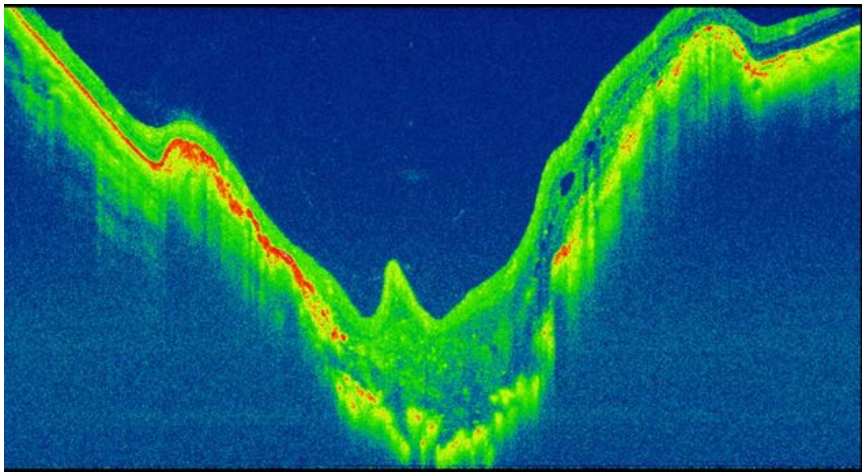

Figure 2. OCT showing a cross-section of Morning Glory Syndrome in the right eye.

3. Discussion

Morning Glory Syndrome represents a rare condition affecting the optic nerve, requiring a thorough understanding for accurate diagnosis and effective management. This pathology, although complex, calls for increased awareness within the medical community.

The presented case study offers an in-depth analysis of the medical record of a 7-year-old girl, covering her medical history, symptomatology, examination results, and various available therapeutic approaches. By closely examining each aspect of her case, it becomes evident that this condition often affects young patients.

Morning Glory Syndrome presents with varied manifestations, which can affect one or both eyes, and sometimes coexist with other ocular or systemic conditions. The diversity in the morphology of the optic disc, ranging from a flower-shaped excavation to individual-specific features, complicates clinical diagnosis. Clinical symptoms, ranging from decreased visual acuity to specific manifestations, require thorough understanding for personalized management.

However, the rarity and clinical variability of Morning Glory Syndrome make its diagnosis complex [5] [6] [7] [8] [9]. This observation highlights the challenges encountered in patient evaluation, emphasizing the importance of a thoughtful approach and specialized expertise to achieve an accurate diagnosis. The clinical diversity thus underscores the necessity of a multidisciplinary approach, involving collaboration among ophthalmologists, geneticists, and orthoptists, for optimal management and appropriate patient and family education regarding the disease and its implications. Maintaining coordination among specialists and ensuring regular monitoring are essential elements for effective long-term management of Morning Glory Syndrome. Genetic analysis performed by geneticists is crucial for identifying any familial predispositions and providing specific genetic counseling [10].

Management of Morning Glory Syndrome requires an integrated and multidisciplinary approach, involving various therapeutic strategies such as tailored optical correction, orthoptic rehabilitation, and regular monitoring to prevent complications. Adherence to recommended therapies, including optical correction and orthoptic rehabilitation, is essential for a positive treatment response, as is parental involvement in successful management.

Close collaboration among ophthalmologists, geneticists, and orthoptists is associated with more favorable outcomes, while exploration of specific genetic factors can guide a more personalized therapeutic approach. Additionally, the establishment of structured follow-up programs and continuous monitoring is indispensable to ensure effective management of Morning Glory Syndrome. This comprehensive approach also integrates assessment of psychosocial factors, measuring the disease's impact on the patient's quality of life and providing appropriate support, as well as psychosocial interventions as needed. Continuous monitoring facilitates timely adjustments, thereby improving therapeutic outcomes. Discussion of contributory factors to the positive response to management offers important insights to guide future therapeutic approaches. Early diagnosis of Morning Glory Syndrome also appears to promote a better treatment response, emphasizing the importance of strategies aimed at enhancing early diagnosis to positively influence therapeutic outcomes.

Long-term and regular evaluation of patients with Morning Glory Syndrome underscores the importance of regular monitoring for effective management. This includes optic disc surveillance, early detection of complications such as retinal detachment and glaucoma, and assessment of impact on quality of life. Involvement of orthoptists in enhancing visual capabilities and alleviating symptoms is crucial. Continuous monitoring is crucial for anticipating changes, detecting complications, and assessing intervention effectiveness, to provide personalized care and optimize quality of life [11] [12].

This observation explores the psychosocial impacts of Morning Glory Syndrome (MGS) and identifies crucial research areas to better understand this rare condition. The first part highlights the emotional and psychological challenges faced by MGS patients and their families, as well as means of support to enhance

their well-being. The second part examines current gaps in knowledge regarding MGS and suggests avenues for future research, such as characterizing underlying mechanisms and developing improved treatment strategies. This clinical case underscores the importance of a comprehensive approach in managing MGS and the necessity to continue research efforts to enhance patient outcomes.

4. Conclusion

This clinical observation underscores the importance of a multidisciplinary and individualized approach in managing SMG. By examining each aspect of the clinical case in detail, it becomes evident that this condition requires regular monitoring to detect potential complications and personalized management to optimize outcomes for the patient. Collaboration among ophthalmologists, geneticists, orthoptists, and other healthcare professionals is essential to ensure comprehensive and effective management of SMG. Furthermore, the involvement and support of parents play a crucial role in the treatment and long-term follow-up process. This case highlights the importance of a holistic and collaborative approach to address the complex needs of patients with SMG.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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