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Case Report

Endogenous Endophthalmitis in a Patient with Colorectal Cancer: A Case Report

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Summary

A 58 year-old woman with a history of diabetes mellitus and rectal Adenocarcinoma presented with acute loss of vision and pain in the left eye with hypopyon with no systemic symptoms at presentation. Diagnosis of endogenous endophthalmitis was made. Treatement was medical by topical, intravitreal and systemic antibiotics, with poor visual outcome. This case reminds ophthalmologists that endogenous endophthalmitis might be associated with underlying malignancy.

Keywords: Endogenous endophthalmitis; **Diabetes mellitus; Visual acuity; Intravitreal injections; Vitrectomy**

Introduction

Endogenous Endophthalmitis (EE) is a relatively rare intraocular infection caused by hematogenous spread from distant foci. It is a diagnostic challenge engaging severally both, functional and vital prognosis. Early and prompt diagnosis and treatement in early stage are crucial to prevent blindness and lethal complications

Case Report

A 58 years-old woman with a history of type 2 diabetes mellitus on oral medications, and recently diagnosed with a rectal Adenocarcinoma which was planned to be treated with chemotherapy and surgery. She presented with acute loss of vision and pain in her right eye for four days. There was no history of surgery or trauma and she was afebrile with no other systemic symptoms. Her ophthalmologic examination revealed a visual acuity at hand movement in the right eye and 10/10 in the left eye, with dense vitritis, eye fundus was not accessible (Figure 1). The left eye was normal. laboratory investigations showed: white cell count 11.11 10^3/µl, neutrophils 7.41 10^3/µl, lymphocytes 2.56 10^3/µl, C-Reactive Protein 80mg/L. Ocular ultrasound showed vitreous membranous debris, suggestive of endophthalmitis associated with subconjunctival abscess and choroidal detachment (Figure 2), Cranial and orbital MRI showed the presence of diffuse thick enhancement of the uveal layer, with increased signal intensity within the vitreous, with 20mm/11mm subconjunctival abscess, and abnormal enhancement of optic nerve (Figure 3). The patient was treated with intravenous and intravitreal injection of antibiotics, 1mg/0.1ml vancomycin, 2.25mg/0.1ml ceftazidime, fortified antibiotics eye drops, the evolution is marked by spontaneous drainage of sub conjunctival abscess (Figure 4) and regression of pain. She was later transferred to Oncology department for the treatement and follow up of her cancer.

Figure 1: Right eyelid swelling, sub conjunctival temporal abscess, corneal injection, and anterior chamber hypopyon.

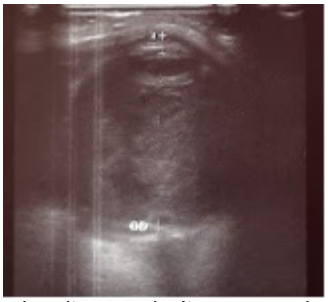

Figure 2: Right ocular ultrasound: vitreous membranous debris, suggestive of endophthalmitis associated with subconjunctival abscess and choroidal detachment.

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Figure 3: Cranial and orbital MRI showed the presence of diffuse thick enhancement of the uveal layer, with increased signal intensity within the vitreous, with 20mm/11mm subconjunctival abscess, and abnormal enhancement of optic nerve.

Discussion

Endogenous Endophthalmitis (EE) is an intraocular infection caused by the hematogenous spread of infectious agents from distant foci. It is a rare, but sight threatening condition, it represents 2–8% of all cases of Endophthalmitis [1] and most commonly reported in association with infectious endocarditis and liver abscesses [2,3] among male patients aged 50 years and above [4]. Multiple risk factors were described, such as: compromised immune system (cancer, acquired immunodeficiency syndrome, organ transplants), renal or hepatic diseases, endocarditis, urinary tract infections, catheters, intravenous drug abuse [5,6]. In our case, the main factors were rectal cancer and diabetes mellitus, Ciprian and al. found in their review of cases published between 2011 and 2022 that diabetes mellitus was a risk factor in 9.3% to 85.7% of patients, while malignancies were reported in 21.4% to 69.7% of cases [1]. The mechanism may be Mucosal defects on the tumour allowing bacteria to enter the blood circulation, and a compromised immunity by diabetes mellitus whitch compromises leucocyte functions and facilitate dissemination of the infection [7,8]. The clinical presentation is usually unilateral, but can be bilateral in 19–33% of cases [9,10], and associate systemic signs such as fever, chills, nausea, and vomiting caused by sepsis, to ocular finding including decreased vision, pain and redness, eyelid swelling, hypopyon, conjunctival and corneal injection, iritis, vitritis and retinitis [10,11]. Bacteriology of EE is variable predominated by Gram negative infections and K. pneumoniae is the most frequent microorganism (26.8% to 53% of patients) [12-14]. Management of endogenous endophthalmitis includes systemic and intravitreal antibiotics (or antifungals) and in some cases intravitreal corticosteroids [15]. Vitrectomy, for diagnosis or as a therapeutic option, may be performed in patients whose general states can support surgery, The indications are important vitreous opacities, diffuse retinal infiltration, poor initial visual acuity and in cases with no evident clinical improvement [14]. Prognosis of endogenous endophthalmitis is poor, especially if there is an important retinal Involvement, a virulent organism, immunodeficiency, delayed diagnosis or complications [18]. Factors associated with good visual outcomes are a good initial visual acuity [16,17], early vitrectomy [14], intravitreal injection in the first 24 hours after diagnosis, and the presence of a focal type of EE [1].

Conclusion

Endogenous endophthalmitis is a very serious condition, with poor final visual outcome. Early diagnosis and treatment are essential to prevent severe visual loss.

Author Statements

Conflict of Interest

The authors declare no conflict of interest.

Contribution of the Authors

All the authors participated in the care of the patient and the writing of the manuscript. All authors have read and approved the final version of the manuscript.

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