SUCCESSFULLY TREATED ISOLATED CILIORETINAL ARTERY OCCLUSION – A CASE REPORT

Mehul A Shah* and Shreya M Shah

*Drashti Netralaya, Dahod, Gujarat, India

Received September 06th, 2020; Revised October 01st, 2020; Accepted October 03rd, 2020

ABSTRACT

Introduction: Isolated cilioretinal artery occlusion is a rare clinical condition occurring in about 3% of retinal artery occlusion cases.

Methods: The present report describes the diagnosis and treatment of a 55-years old male patient who presented sudden, painless diminution of vision in the left eye since 24 hours previously. Best corrected visual acuity was 20/30, N6 in the right eye and finger counting near face in the left eye at the time of presentation. Anterior segment examination showed Relative afferent pupillary defect (RAPD). Dilated fundus examination of the left eye revealed an area of retinal ischemia with whitish edges in the superior papillomacular region. Optical Coherence Tomography (OCT) confirmed intraretinal oedema in the area of the infarct. The patient was diagnosed with left isolated cilioretinal artery occlusion, and was administered intravitreal injections (Bevacizumab + intra vitreal tiamcylene acetate).

Result: In the weekly follow up, left eye vision was found to be restored to 20/30, N6, with a significant decrease in intraretinal oedema.

Conclusion: Isolated cilioretinal artery occlusion though rare it is possible to regain structural and functional integrity.

Summary: This is a case report which reports isolated cilioretinal branch of central retinal branch, following treatment we reported structural and functional recovery.

Keywords: Isolated cilioretinal artery occlusion, Intravitreal injection, Bevacizumab, Intravitreal Triamcinolone Acetonide, Papillomacular infarction.

INTRODUCTION

Human retina is nourished by two separate systems of blood circulation: the retinal circulation and the choroidal circulation, which supply blood to the inner and outer retinal layers respectively [1]. As a result, retinal artery occlusions most frequently affect the inner retinal layers rather than outer retinal layers, because the inner layers of the retina are nourished by the retinal blood vessels, whereas choroidal circulation supplies most of the oxygen to the outer layers of the retina.

The cilioretinal artery is a branch of the short posterior ciliary artery that has been reported to be clinically present in about 20% of human eyes, and angiographically present in approximately 32% of human eyes [2]. The point of entry into the retina is usually from the temporal aspect of the optic disc. Occlusion of this artery may occur in one of the following three ways: (i) in an isolated manner (Isolated occlusion); (ii) in association with Central Retinal Vein Occlusion, or (iii) in association with Anterior Ischemic Optic Neuropathy [3]. The first type i.e., isolated cilioretinal artery occlusion, is a rare clinical entity observed in only 3% of all retinal artery occlusions.

CASE REPORT

History

A 55 years old male patient was presented with the chief complaint of sudden, painless diminution of vision in his left eye since 24 h. Best corrected distance visual acuity was 6/9 in the right eye and Finger counting near face in the left eye. There was no H/O diabetes mellitus, hypertension, bleeding disorders or any other systemic illness.

Examination

Slit lamp examination revealed that the anterior segment was quiet and within normal limits in Right Eye and RAPD in Left Eye. Indirect ophthalmoscopy showed a normal right red eye.

Corresponding author: Mehul A Shah, Drashti Netralaya, near GIDC, Chakalia Road. Dahod, Gujarat, 389151, India, Tel: 00-91-2673-645364; Fax: 00-91-2673-221232; E-mail: omtrustdahod@gmail.com.


Copyright: ©2020 Shah MA & Shah SM. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.
fundus, but revealed retinal ischemia in the left eye with a well
demarcated white edematous retina extending from the optic
disc superiorly to the macula, but sparing the foveola (Figure 1). The rest of the retina appeared normal. Intraocular
pressure was normal (14 mm Hg OU) in both eyes. Optical
coherence tomography (OCT Cirrus spectral domain-Carl
Zeiss) revealed firstly, an increase in thickness and hyper-
reflectivity of the inner retinal layers in the affected area, and
secondly, shadowing with decreased reflectivity of
photoreceptor and retinal pigment epithelial layers, consistent
with the incidence of intracellular oedema (Figure 1). Left
eye central macular thickness measured 377 µm in ocular
coherence tomography. Fundus photographic documentation
was also performed. The above findings established the
clinical diagnosis as isolated cilioretinal artery occlusion in the
left eye.

The patient was treated with oral carbonic anhydrase
inhibitors (250 mg tablets of acetazolamide, 1x2) and
intravenous hyperosmolar agent (350 ml mannitol). In
addition, intravitreal injections (Bevacizumab + intra vitreal
tiamcelone acetate) were planned on the same day in the left
eye: Bevacizumab 1.25 and 2 mg triamcinolone acetate were
administered in vitreous cavity with aseptic precautions,
following which the patient was examined once again.

At the post-treatment follow-up one week later, the best
corrected distance visual acuity in the left eye had improved
to 6/9, while the right eye vision remained unaltered with a
reading of 6/9. Posterior segment examination demonstrated
that the previously noted well demarcated whitish areas of
retinal ischemia had turned into ill-defined pinkish regions
(Figure 2). Fundus photography and ocular coherence
tomography were repeated and ocular coherence tomography
retinal thickness recorded as 242 µm (Figure 2).

**DISCUSSION**

In comparison to isolated cilioretinal artery occlusion, the
visual prognosis of retinal artery occlusions is poor, and its
current acute management has limited and unproven benefits
for the improvement of vision [4,5]. Several studies have
reported a variety of treatment modalities such as ocular
massage; treatment with carbogen (95% oxygen and 5%
carbon dioxide), topical Timolol maleate and acetazolamide;
and anterior chamber paracentesis, but these modes of
treatment have not been established as safe and efficacious
options for this visually disabling condition [6,7].

To the best of our knowledge, no studies have reported a
significant improvement in visual acuity following
intravitreal injections of anti-Vaso Endothelial Growth Factor
and triamcinolone. However, in the present case study, the patient responded well to intravitreal injections of Bevacizumab + intra vitreal tiamcelone acetate, and showed a markedly significant improvement in visual acuity within 1 week of therapy. The observed improvement in vision could also be attributed to the early initiation of treatment, young age of the patient and absence of precipitating factors.

CONCLUSION

Intravitreal administration of Bevacizumab + intra vitreal tiamcelone acetate (through injections) appears to be a promising treatment modality for retinal artery occlusions. Prompt initiation of treatment can contribute considerably to restoration of normal vision. However, the topic needs to be researched on a large scale with a long-term follow-up and analysis to validate the findings of this study.

REFERENCES