Author's response to reviews

Title: Spontaneous malignant glaucoma in a patient with patent peripheral iridotomy.

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Author's response to reviews: see over
To,

The Editor in-charge,
BMC Ophthalmology

19th November 2012

Dear Sir / Madam,

Point-by-point response for MS: 2754955276303719 - Spontaneous malignant glaucoma in a patient with patent peripheral iridotomy.

Reviewer: Yun E Zhao

Comment #1:

1. The case report should be accompanied by written and signed consent to publish the information from the patients or their guardians and should include a statement to this effect as part of a Consent section in the manuscript

Response:

We agree with the reviewer.

A copy of the written consent will be sent separately to the Editor-in-Chief of this journal upon request

In the section “Consent” (Page 7) the following statements are included:

“Consent
Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.”
Comment #2:

The writing is acceptable and suitable for a scientific, peer-reviewed journal

Response:

We thank the reviewer for the positive comment.
Comment #3:

The authors reported a case of “spontaneous malignant glaucoma”.

Although the episode occurred one year after LPI, the malignant glaucoma has close relationship with the LPI therapy.

As the authors reviewed the reported spontaneous malignant glaucoma cases had no antecedent eye surgery or miotics in the literature, it might not be reasonable for this case to be diagnosed as spontaneous malignant glaucoma.

Response:

i. We agree with the reviewer. It might not be reasonable to diagnose this case as “spontaneous malignant glaucoma”.

ii. Although LPI is known to trigger malignant glaucoma, the attack usually occurs within the period where inflammatory responses due to the procedure are still active.


A period of one year after the initial LPI makes the association between the procedure and malignant glaucoma even more unreasonable; therefore we diagnosed this episode as a spontaneous malignant glaucoma.

iii. As pointed out by reviewer #2: Yuanbo Liang (general comments)

“Malignant glaucoma is not a very uncommon complication after glaucoma surgery or other intraocular surgery. But it is truly very rare to happen in patients at 1 year after laser peripheral iridotomy and with no miotics use, which the authors called “spontaneous” herein. It is of clinical significance for clinicians to bear this possibility in mind. All the features of the presented case are typically malignant glaucoma.”

The purpose of labeling this case as “spontaneous” is for clinicians to bear this possibility in mind; because early recognition and treatment is essential as the prognosis of this condition is favorable with the current treatment modalities.
Comment #4:

On the page 4, the author wrote “an emergency vitrectomy, phacoemulsification, primary posterior capsulotomy, and posterior chamber intraocular lens implantation were performed.”

Please tell us whether anterior or posterior vitrectomy was made and how much vitreous was removed and what incision did they use.

Response:

An anterior vitrectomy was performed via the pars plana.

Changes made in the manuscript (Case Presentation, Paragraph 3, Line 5-7):

“An emergency anterior vitrectomy was performed via the pars plana, followed by phacoemulsification cataract extraction, primary posterior capsulotomy, and posterior chamber intraocular lens implantation.”
Comment #5:

The malignant glaucoma was caused by ciliary block actually.

It may not be reasonable to term it as “positive vitreous pressure glaucoma”.

There was positive vitreous pressure, but if you termed it as “positive vitreous pressure glaucoma”, it may mean you can only remove some part of vitreous to decrease the vitreous pressure.

But in clinic, if we only do this, we cannot manage it successfully without dealing with the ciliary block.

Response:

i. We agree with the reviewer that malignant glaucoma is caused by ciliary block.

ii. Using the term “positive vitreous pressure glaucoma” means that there is a necessity to reduce the vitreous pressure.

Therefore, treatments should address the 2 important contributing factors for the development of this condition; reduction of choroidal expansion and facilitation of vitreous fluid conductivity

Discussion, Paragraph 5, point ii was not appropriate

“ii. removal of the posterior capsule and anterior vitreous relieves the positive vitreous pressure by allowing free flow of fluid between the anterior and posterior segment of the eye, and”

This point gives the false impression that the termed “positive vitreous pressure glaucoma” means that we can only remove some part of vitreous to decrease the vitreous pressure. This also gives the false impression that ciliary block can be disregarded.
The above point is entirely inappropriate. This is replaced with

“ii. treatments should address the 2 important contributing factors for the development of this condition; reduction of choroidal expansion and facilitation of vitreous fluid conductivity”

iii. We agree with the reviewer that this condition cannot be managed successfully without dealing with the ciliary block.

The above correction (Discussion, Paragraph 5, point ii) addresses the issue of ciliary block.

The use of cycloplegia relieves the “positive vitreous pressure” by widening the ciliary body diameter, thereby increasing the forward diffusional area for fluid to leave the posterior vitreous cavity.


iv. We also agree with the reviewer that the term “positive vitreous pressure glaucoma” may not be entirely reasonable.

As our understanding of this condition improves, we hope that future authors may be able to suggest better terminologies to reflect the pathophysiology of “malignant glaucoma”.

We proposed the term “positive vitreous pressure glaucoma” to replace “malignant glaucoma” because of the following reasons:

i. the phrase “positive vitreous pressure” reflects the final common pathway leading to the development of vicious cycle of increased in transvitreal pressure,

ii. treatments should address the 2 important contributing factors for the development of this condition; reduction of choroidal expansion and facilitation of vitreous fluid conductivity


iii. the term “malignant” is no longer suitable to reflect the prognosis of the condition

Changes made in the manuscript (Discussion, Paragraph 5, point ii):

“ii. removal of the posterior capsule and anterior vitreous relieves the positive vitreous pressure by allowing free flow of fluid between the anterior and posterior segment of the eye, and”

Is replaced with:

“ii. treatments should address the 2 important contributing factors for the development of this condition; reduction of choroidal expansion and facilitation of vitreous fluid conductivity “

Changes made in the manuscript (Conclusion, Line 4-5):

“The term “positive vitreous pressure glaucoma” is best used to reflect the pathophysiology, treatment and prognosis of the condition.”

Is replaced with:

“The term “positive vitreous pressure glaucoma” is proposed to reflect the pathophysiology, treatment and prognosis of the condition.”
Reviewer: Yuanbo Liang

Comment #1:

Malignant glaucoma is not a very uncommon complication after glaucoma surgery or other intraocular surgery. But it is truly very rare to happen in patients at 1 year after laser peripheral iridotomy and with no miotics use, which the authors called “spontaneous” herein. It is of clinical significance for clinicians to bear this possibility in mind. All the features of the presented case are typically malignant glaucoma. This paper is well-written.

Response:

We thank the reviewer for the positive comment.
**Comment #2:**

Why posterior vitreous pressure increased in this case with patent PI?

What is the mechanism in this specific case?

The authors may pay more words to elucidate in the discussion part.

**Response:**

i. A patent LPI relieves pupillary block, where the differential pressure between the anterior chamber and the posterior chamber is nullified.

In the presence of an intact anterior hyaloid face, the vitreous fluid conductivity remains poor. Therefore, a patent LPI does not relieve the pressure differential between the vitreous cavity and the anterior segment.

ii. Quigley et al further pointed out that eyes with primary angle-closure glaucoma have persistent “positive pressure” phenomenon despite patent iridotomy. This is due to the higher-than-normal tendency for choroidal expansion and poor vitreous fluid conductivity. In malignant glaucoma, a vicious cycle of poorer vitreous fluid conductivity and increased transvitreal pressure is established. This results in compression of the vitreous gel, progressive forward displacement of the lens-iris diaphragm and eventual direct closure of the anterior chamber angle despite the presence of patent iridotomy.

The above sentences are incorporated into *Discussion, Paragraph 3, Line 5-15.*
Comment #3:

Is this case a chronic or a sudden onset?

If it is suddenly happened, there must be some inducing factors or triggers? That may be interesting. For example, reading for long periods of time, emotional changes

Response:

i. The onset in this case was sudden.

ii. We agree with the reviewer that there should be an inducing factor. However, despite exhaustive history taking, systemic review and physical examination, we were not able to identify any recent trigger factor.

An LPI was performed one year ago, it might not be reasonable to diagnose this case as “spontaneous malignant glaucoma”. Although malignant glaucoma has close relationship with LPI therapy, it is also difficult for us to attribute the cause to LPI due to the one year interval.

iii. The purpose of labeling this case as “spontaneous” is for clinicians to bear this possibility in mind; because early recognition and treatment is essential as the prognosis of this condition is favorable with the current treatment modalities.
Comment #4:

VA: 0.67, what chart is used? Is it a kind of snellen or LogMAR?

Response:

Decimal notation.

VA 0.17 (decimal notation) is equal to snellen VA 6/36.
VA 0.67 (decimal notation) is equal to snellen VA 6/9.

The use of decimal notation was pointed out to the readers in Case Presentation, Paragraph 1, Line 6:

“spontaneously. Visual acuity was 0.17 (decimal notation). Ocular examination showed”

Changes made in the manuscript (Abstract, Case Presentation, Last Line):

Decimal notation added:

“best corrected visual acuity was 0.67 (decimal notation).”

WE sincerely thank all reviewers for their time and constructive input into our manuscript. WE hope BIOMED CENTRAL OPHTHALMOLOGY will accept our manuscript for publication.

With kind regards,
Tan Aik Kah,

Mallika Premsethinil, Mohamad Aziz Salowi, Chong Min Siew, Intan ak Gudom