Author's response to reviews

Title: Worsening angle closure glaucoma and choroidal detachments subsequent to closure of a carotid cavernous fistula

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Author's response to reviews: see over
Dear Editor,

The authors would like to thank the reviewers for their careful read and insightful comments. Below is a point-by-point response to their comments and questions. Changes have been made to the accompanying revised manuscript using the highlighter function in MS Word.

**Reviewer # 1 (20 February 2012)**

1. “B scan ultrasonography or at least Fundus photographies of the right eye are needed to be presented in the follow-up data. Such evidences should be expressed and then compared/discussed during the course of the disease. Especially, after the resolution of symptoms.”

   We presented the fundus photographs of our patient’s right eye one month and two months after closure of the CCF (Figure 1B and 1D). We did not obtain B Scan ultrasonography or fundus photographs after resolution of the choroidal detachments. The resolution of the choroidal detachments was observed on dilated fundus examination. Although we agree that such photographic documentation would provide definite evidence of resolution of the choroidal detachments, we do not believe it would add more pertinent information as our main goal of this report is to highlight the paradoxical worsening of the choroidal detachments after closure of the CCF. It’s our major objective by reporting this case with uncommon clinical features to provide a take home message to clinicians that close observation of these patients is warranted even after closure of the CCF.

2. “More details about the past ocular examination are neede. Especially IOP should be presented either before or after the cataract surgery. One of the most important causes of Choroidal detachment is hypotony. The authors should explain about these issues and rule out, if needed, other possibilities.”

   The intraocular pressures prior to (22 OD and 16 OS) and after cataract surgery (19 OD and 18 OS) have been added to the manuscript. We completely agree that hypotony is an important cause of choroidal detachments and thank the reviewer for bringing this omission to our attention. To emphasize the reviewer’s point, we have also added “no hypotony was detected throughout the entire course” to the manuscript.

3. “Drug history? Some drugs e.g. Dorzolamide and some other hypotensives especially sulfa-derivatives are known to cause this condition in sensitized eyes (in cataract surgery) similar to your case. The patient has a history of Glaucoma. Thus, precise topical and systemic therapies especially hypotensives should be noted.”

   We have included a brief summary of our patient’s medical history and a list of all her oral and topical medications as below. We appreciate the reviewer’s excellent comment regarding medications, especially sulfa-derivatives and a sentence has been added to the manuscript to highlight the reviewer’s point.
“Past medical history was significant for hypertension, gastroesophageal reflux disease and a cerebrovascular accident 15 years prior. Medications included atenolol, alprazolam, omeprazole, aspirin and topical prednisolone four times a day OD. The duration of topical prednisolone treatment was approximately 1 week prior to her presentation to our institution. The treatment was deemed necessary by the referring physician for her complaint of discomfort and redness. No other topical medications were given.”

“She was treated postoperatively with topical moxifloxacin, nepafenac and prednisolone for a month. She did not receive dorzolamide or other sulfa derivatives.”

**Reviewer # 2 (20 February 2012)**

1. Bur the neuroradiology is naïve; the manuscript needs and INR co-author.

   The authors completely agree with the value of an INR’s input and have worked closely with Dr. M. J. Ayad from the Department of Neurological Surgery in the treatment of this patient. Recognition of Dr. Ayad’s input has been added in the form of an acknowledgement.

2. First ever case? Always a brave assertion. How can we be sure?

   The authors performed an extensive literature search of Pubmed for all years through October 2011, which was the time of submission of the manuscript. Since receiving the revision notification from the editor, we have conducted a further literature search. Relevant articles were retrieved and analyzed. Cross-referencing was employed and reference lists from selected articles were used to identify additional pertinent articles.

   The authors agree that despite an extensive literature search, we cannot be completely sure that our report represents the first case ever. We have thus changed our statement to read: “To our knowledge, our case represents the first report of worsening ACG and choroidal detachments subsequent to CCF closure over an extended period of two months.”

3. What was the actual presenting complaint?

   The patient was referred from an outside ophthalmologist for further management of primary angle closure glaucoma. Her only complaint at the time of presentation was discomfort and redness of the right eye, as stated in our manuscript.

4. What sort of fistula did the patient have: direct (and if so why) or indirect.

   She had a small Barrow type D right carotid cavernous fistula, which by definition is an indirect fistula. The word “indirect” has been added to the manuscript for clarification.

5. We need to be shown the arteriogram (carefully labelled).
The labeled arteriogram has been added to the manuscript- please see Figure 1 (and our previous Figure 1 has been renamed to Figure 2).

6. No orbit CT MR?

A CTA of the head and CT orbits with and without contrast was obtained prior to the six vessel cerebral angiogram. The CTA showed atherosclerotic disease within the distal cavernous segments of the internal carotid arteries. The CT orbits showed possible asymmetry of the superior ophthalmic veins. As neither exam was diagnostic, the authors did not include them in the manuscript. A cerebral angiogram was subsequently performed and has been added to the manuscript (Figure 1).


The bruit was heard by one of the authors who is both a fellowship trained neuro-ophthalmologist and an oculoplastic surgeon. Although CCF is a relatively uncommon disease, we frequently encounter these patients due to the nature of our large tertiary referral center. It is our common practice to listen for bruits with a stethoscope in any patient suspected to have a CCF.

8. Why try jugular compression if the CCF has closed.

The CCF was not completely closed. As mentioned in the manuscript, our patient had undergone spontaneous partial closure of the CCF and thus the planned transarterial embolization was aborted. She went on to develop choroidal detachments but declined further angiographic testing. It was assumed that perhaps her CCF was worsening and thus she was started on manual carotid jugular compressions.

9. If the CCF has closed but the eye getting worse – what else could be done?

An option would be to surgically drain the choroidal detachments if they are deemed vision threatening. We appreciate the reviewer’s question, as we wish to heighten readers’ awareness through this report that vision threatening complications can occur even after CCF closure.

10. “She opted for further surgical intervention” what exactly did her treating physicians have in mind? A nice example if how a physician can take credit for doing nothing when in fact nothing can be done -virtue out of necessity.

As noted earlier, the CCF was noted to be partially closed (not completely closed) on angiography and ophthalmic clinical exam demonstrated worsening choroidal detachments. Taken together, there was concern that the CCF was worsening. “Repeat surgical intervention” was to consist of diagnostic cerebral angiography and possible embolization of the partially closed CCF. But as mentioned in the manuscript, repeat diagnostic angiography demonstrated significant thrombosis of the CCF and no
intervention was warranted. This predicament highlights the crux of our case report: deterioration of the ophthalmic exam (including the development and worsening of choroidal detachments) does not necessarily mean that the CCF is worsening.

Thank you for the attention and consideration.

Sincerely,

Rachel W. Kuchtey, M.D., Ph.D.