Review of: "Surgical Considerations For Vitreous Opacities"

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Potential competing interests: No potential competing interests to declare.

The title suggests that the article will discuss vitreous opacities, and indeed most of the article is oriented to the topic of floaters. In this context, the surgical management of diabetic retinopathy seems to be out of context and while I am sure the author has considerable experience in the field, it has been extensively covered by others, and reduces the focus of the current manuscript. I would have avoided the topic or suggest it be removed.

The management of vitreous floaters has not received much attention recently, but the use of surgery or alternate approaches are performed more and more as the author suggested as the safety of the procedure and patient needs are recognized.

Below, you will find several specific comments addressing different aspects of the paper. Regarding the physiology of the vitreous in health and disease, I would suggest the following review written several years ago with a fellow which covers PVD formation, consequences of anomalous PVD, its incidence with axial length, age and observation methods: de Smet M, Gad El Kareem A, Zwinderman AH: The vitreous, the retinal interface in ocular health and disease. Ophthalmologica 2013, 230:165-178.

Page 2 - first paragraph: floaters are difficult to see for 2 reasons, most clinical visualization systems use coaxial light which means that a floater can only be seen if it reflects enough light back to the observer. The angle of approach of a slit beam and its intensity is not sufficient for reflected light to be seen. During surgery, floaters are clearly visible, as the incident light comes close to a 90 degree angle to the floater. Furthermore, if you consider asteroid hyalosis, the particles are miniscule but highly reflective and this visible.

page 2 second paragraph: retinal tears occur in younger and older individuals alike. It depends on the released energy as the PVD occurs and the fragility of the retina at the point of adhesion.

third paragraph: when are vitreous floaters uncomfortable to patients… and while bothersome, only 10% of patients that come to me require surgery…

fourth paragraph: YAG laser has been around for 20 years also, the first presentations on this subject by anterior segment surgeons was in the 1990s. YAG will also not dissolve collagen fibrils but disrupt them, otherwise provide the pathological evidence or the reference. As indicated above, I would remove the section on PDR, as it is not relevant to the manuscript or at least to this section. Define what a plasmon is, particularly for a medical audience or refer to the process as the gold nanoparticle is able to absorb the laser energy and convert it to intense heat.

Page 3: Varieties of floaters - I would present this as a differential. Also uveitis does not usually cause floaters, though

inflammation and infections can. Mascarade is more than “cancer”, and most intraocular cancers you are referring to are lymphomas. Others would include metastatic in particular squamous cell. I would be more specific.

third paragraph: floater would be more numerous but not more frequent

fourth paragraph: not usre that the feeling of floating refers to.

Page 4:

Smaller gauge is better because of the use of the trocars. When vitrectomies were first done with 20G we did not use trocars, and pulled on the vitreous base.

The need to remove the vitreous all the way to the base is not absolute in this type of surgery as you mention later. This is inherent to those who do not induce a PVD.

Last paragraph: retinal tears not fractures… what do you mean by retinopexy if not use of laser or cryo? Not sure what you mean with the last sentence.

Page 5:

see comment above about the trocars, this is more relevant than gauge of the vitrector, and has been discussed in the context of peripheral tears with various gauge sizes but not in the context of floater surgery.

YAG laser vitreolysis

this is surgery but non penetrating (line 4).

Weiss ring can better be referred to as peripapillary glial tissue adherent to the posterior hyaloid and originating from the edge of the optic disk rather than “a kind of floater”.

Page 6:

you should consider discussing also the risk of YAG laser close to the retinal surface. How close can we get? this is something raised by floater laser surgeons.

many more shots rather than much more shots.

In the article by Shaimova - what is means by big floaters disappeared after surgery. what surgery?

Page 7:

second paragraph.

How anti-angiogenic are gold particles?? after one month how many gold particles were left in the rabbit eye…

The last sentence states: “OUR early toxicity investigation of Muller cells”. You are not a co-author of the article as far as I

can see? Was this simply copy pasted?

next paragraph can benefit from a re-write Sauvage in his paper certainly claims that photoablation is possible, but did not know the half-life of the particles, nor of their safety. Nanoparticles are known (may be not gold) to cause inflammation and the activation of macrophages. Thus, their use in humans remains controversial.

This is a great start, with more focus and some corrections, it will be a great paper.