

## IMAGING IN PANOPHTHALMITIS WITH A RARE COMPLICATION: A CASE REPORT

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### ABSTRACT

Panophthalmitis is a sight threatening ophthalmic emergency, where clinical diagnosis is often challenging and delayed diagnosis may exacerbate poor visual prognosis<sup>1</sup> B scan ultrasound with contrast enhanced CT and MRI help in assessing disease extent, complications and response to therapy.

**KEYWORDS:** Panophthalmitis, retinal detachment, Magnetic Resonance Imaging, Computed Tomography, Diffusion Weighted Imaging.

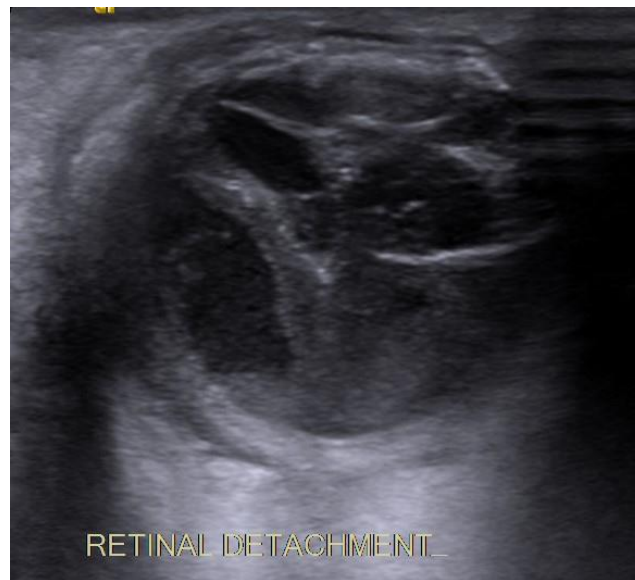
### INTRODUCTION

Panophthalmitis is the inflammation of ocular cavities and their adjacent structures with extension beyond sclera and tenons capsule into the orbital tissues. It can occur due to either exogenous or endogenous causes. Most common exogenous cause is secondary to ocular surgeries or penetrating injury. Endogenous panophthalmitis results from hematogenous spread of microorganism from distant foci.

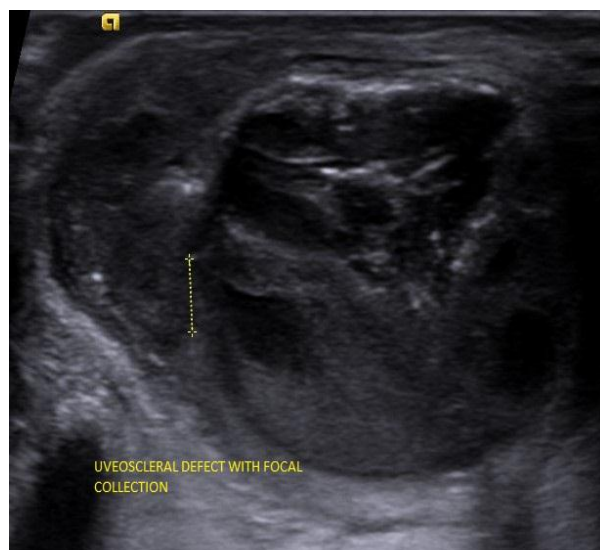
### CASE REPORT

We report the case of a 38-year-old gentleman who presented to our hospital with complaints of redness, pain and defective vision of right eye of 1-week duration. He is a known case of chronic kidney disease and neovascular glaucoma of right eye for which laser and cryotherapy was done. Ophthalmologic examination revealed proptosis, conjunctival chemosis, hazy cornea and purulent exudates in anterior chamber. Posterior chamber could not be evaluated due to hazy media. His vision in right eye was reduced with only perception of light. Examination of left eye was within normal limits. He was then evaluated with B mode ultrasound which revealed retinal detachment with echogenic contents in subretinal space (Figure 1). There was a focal uveoscleral defect in the superolateral aspect with a focal hypoechoic collection in the subtenons space (Figure 2). Layers of eye ball appears thickened with increased vascularity on color doppler examination (Figure 3). We further proceeded with contrast enhanced CT scan of orbit which revealed retinal detachment with hyperdense

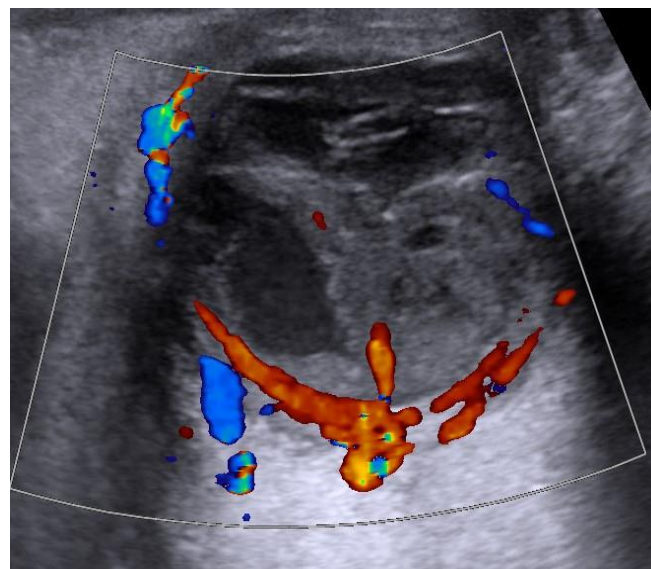
contents in subretinal space. Thickened and enhancing uveoscleral layers noted. There was a defect in sclera in superolateral aspect with collection in subtenons space continuous with the subretinal contents. (Figure 4). To confirm the nature of contents in subretinal space MR sections of orbit was taken which showed exudates in subretinal space appearing hyperintense in T1 and T2WI with diffusion restriction, confirming the proteinaceous nature of the contents (Figure 5). Collection in the subtenons space also showed similar characteristics. A diagnosis of advanced panophthalmitis with exudative retinal detachment, scleral perforation and ocular abscess formation was made. He was then aggressively treated with intravenous and topical antibiotics, intravenous steroids and anti-glaucoma medications for a period of 2 weeks and became symptomatically better.



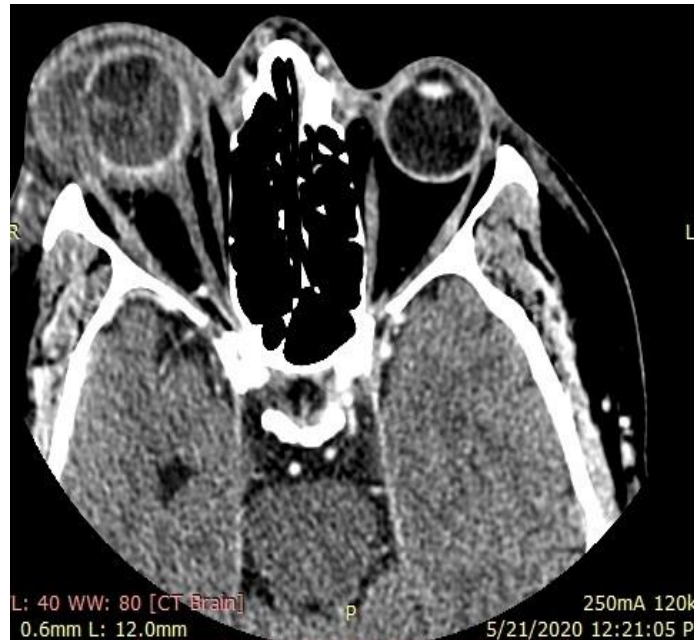
[Fig. 1]: USG showing retinal detachment with hyperechoic contents in subretinal space.



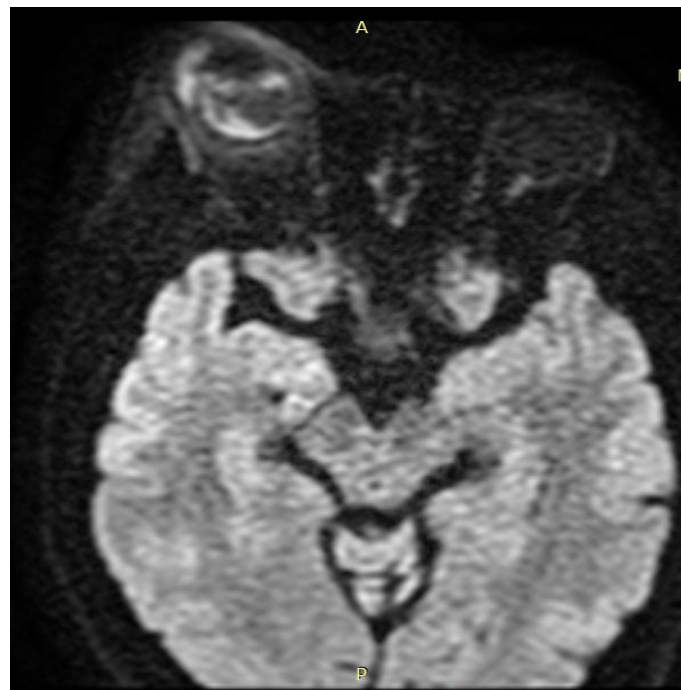
[Fig.2]: USG showing thickened uveoscleral layers with a defect and focal collection in subtenons space.



[Fig.3]: USG doppler study showing increased vascularity of uveoscleral layer.



[Fig. 4]: CECT axial section showing retinal detachment with hyperdense contents in subretinal space, thickened eyeball layers with focal defect in lateral aspect and collection in subtenons space.



[Fig.5]: Contrast MR section showing diffusion restriction in subretinal and subtenons collection.

## DISCUSSION

Early panophthalmitis is often subtle on imaging with thick uveoscleral enhancement, while advanced disease may result in ocular abscess and focal exudates in conjunction with retinal or choroidal detachment. Exudates and abscess may collect in the vitreous, subhyaloid space, subretinal space or suprachoroidal space. Focal exudates and ocular membrane detachment can be subtle on non-contrast CT, and they are better appreciated on CECT and MRI. Focal exudates may be mildly hyperintense on T1 and FLAIR sequences, due to

proteinaceous material or associated hemorrhage.<sup>[2]</sup> These proteinaceous/purulent exudates are more easily identified with DWI because of diffusion restriction.<sup>[3]</sup>

## CONCLUSION

Panophthalmitis is a sight threatening ophthalmologic emergency where radiological imaging help in assessment of disease extent and complications .Knowledge of spectrum of imaging findings of the disease is thus important for radiologists.

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