



Aviso, Ultrasound Platform

Case presentations with the new 10 MHz B-scan probe

April 2013 - Cas N°2: Patient with diabetic retinopathy with recurrent intra ocular hemorrhage in the left eye after vitrectomy.

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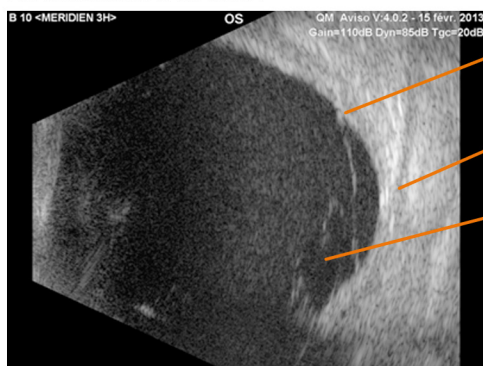
Ultrasound of a post vitrectomy bleed produces an echogenic and homogeneous image that is different than one obtained from a vitreous hemorrhage where blood settles within vitreous structures. A cross section of the residual vitreous skirt is seen as an echolucent area at the bottom of image.

The interface between blood cells and aqueous in a vitrectomized eye is much smaller than the interface between cells and vitreous gel. Therefore, a probe with both high sensitivity and high resolution is required to obtain a diagnostically useful image in these cases.)

While scanning the different meridians, hyaloid traction was identified at 3:00, starting at the vitreous base and extending to the mid periphery. It is attached to the eye wall by a small hyperreflective structure revealing a preretinal new vessel that is a potential cause of recurrent hemorrhage (Figure 1).

Many PVDs are partial. Secondary Posterior Vitreous Detachments may also produce a recurrent hemorrhage. Neovascularization was seen adjacent to the disk but without any adhesion or traction of the hyaloid membrane (Figure 2).

POSTERIOR NEAR OPTIC NERVE



- Posterior hyaloid attached to new vessel
- Inserting tendon of lateral rectus
- Cross section of residual anterior vitreous skirt (post-vitrectomy)

ANTERIOR PERIPHERY

Figure 1 : Longitudinal scan of 3:00 anterior demonstrates diffuse intraocular hemorrhage in an aqueous media, localized detachment of the posterior hyaloid membrane, with attachment to a preretinal new vessel located in mid periphery. The anterior periphery is shown at the bottom of image. Echolucent area is residual vitreous skirt.



Figure 2



The right eye shows an intraocular hemorrhage.
The hyaloid is only partially detached (Figure 3).

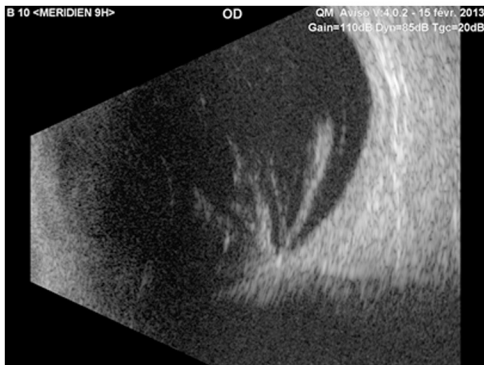


Figure 3

Conclusion:

High sensitivity and resolution images produced by this new 10 MHz probe allows visualization of diffuse fresh hemorrhage. One can greatly appreciate the lack of noise and artifacts, permitting a more precise differential diagnoses of echoes related to vitreous hemorrhage and inflammatory cells.

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