Commentary: Role of PASCAL and optical coherence tomography angiograpgy in the treatment of diffuse unilateral subacute neuroretinitis caused by large live motile worm

Different nematodes have been associated with diffuse unilateral subacute neuroretinitis (DUSN) including *Toxocara canis, Ancylostoma caninum, Strongyloides stercoralis, Ascaris lumbricoides*, and *Baylisascaris procyonis*.[1] The clinical features of DUSN include subretinal tracks, small yellow-white spots on retina, altered internal limiting membrane (ILM) reflex, vitritis, vasculitis, retinal edema, live worm, alterations of the retinal pigment epithelium, narrowed retinal vessels, and optic disc atrophy especially in late phases.[2] The early signs of DUSN are often mistaken for entities that cause focal chorioretinitis, including toxoplasmosis, histoplasmosis, sarcoidosis, white dot syndromes, nonspecific optic neuritis, and papillitis. The late stage of DUSN is often mistaken for posttraumatic chorioretinopathy, occlusive vascular disease, sarcoidosis, toxic retinopathy, or retinitis pigmentosa.[1] Graeff-Teixeira *et al*. has reported maximum patients in their series to be below 2 year age, emphasizing the prevalence of DUSN in very young age group.[3] According to previous literature, in about 25–40% cases the live worm is identified.[1,4]

The work by Cherukuri *et al*. is appreciated since they were able to restrict and neutralize the worm away from the fovea.[5] Pattern scanning laser photocoagulation was helpful in quick and accurate delivery of the laser spots so that foveal migration of the worm and consequent difficulty in management was prevented. The identification and laser photocoagulation (PHC) of the live worm in DUSN is crucial and there have been reports of better visual outcome even without the identification of the worm.[1] However, laser PHC in the early phase of the disease is the key for better visual prognosis since laser PHC of the worm in late phase DUSN may not be associated with much visual improvement.[6] Thiabendazole and corticosteroids are useful, especially in cases associated with vitritis or possible disruption of blood retinal barrier, even in absence of the worms.[1] Use of a contact lens, wide angle fundoscopy, wide angle optical coherence tomography (OCT) may help in diagnosis of the worm.[4]

Additional documentation with optical coherence tomography angiography (OCTA) in the present study throws some light on the increased diagnostic accuracy and rate of worm identification in cases with DUSN, as has already been described by Kalevar and Jumper.[4] With the availability of higher resolution and ultra-widefield OCTA, our capability to diagnose and understand DUSN will likely improve. There has been description of spectral domain OCT demonstrating reduced retinal nerve fiber layer thickness and central macular thickness, enhanced depth imaging OCT demonstrating no change in choroidal thickness, and electrophysiological tests reporting functional evidence of both inner and outer retinal dysfunction.[7,8] However, large-scale studies need to validate these tests and biomarkers in diagnosing and prognosticating DUSN.

Finally, public health awareness about the clinical signs and high index of suspicion about DUSN among treating physicians will help in early diagnosis, prompt treatment, and better visual prognosis of this disease entity. Proper documentation and discussion of management protocols among peer group enriches the collective academical knowledge.

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