

Fluorescein Angiography in the Management of Retinopathy of Prematurity



The significance of persistent avascular retina in infants being monitored for retinopathy of prematurity (ROP) is not clearly determined. This finding is recognized frequently in patients following treatment with anti-vascular endothelial growth factor (VEGF) injections. The absence of progress in vascularization to the periphery predicates frequent follow-up with indirect ophthalmoscopy. In this issue, Al-Taie et al. report their intravenous fluorescein angiography (IVFA) findings in an observational prospective study of 36 consecutive cases of infants with type 2 ROP. These infants had persistent avascular retina beyond 45 weeks' postmenstrual age (PMA). None of their patients required treatment for ROP, yet they demonstrated delayed or arrested peripheral vascularization.

Recently, leakage on IVFA has been reported in both treated and untreated patients with ROP at the vascular–avascular interface.¹ The significance of this finding has not been determined and the vascular leakage pattern needs to be correlated with the clinical findings. Many patients with leakage did not require treatment. Al-Taie et al. found active leakage on IVFA in 5.5% of their cases. They treated these 3 patients with laser photocoagulation.

These infants with type 2 ROP but lacking complete vascularization can present management dilemmas for the screening and treating ophthalmologists. The long-term impact of peripheral avascular retina is still not known and, until such information becomes available, treatment decisions will be based on the findings on indirect ophthalmoscopy in many cases. Complicating the issue is the difficulty in obtaining IVFA studies in all infants because of the poor health of the infants and lack of availability of the cameras and technology to perform the angiography. The delineation of the IVFA and ophthalmoscopic findings that require laser treatment will be extremely useful in the management of these difficult cases. Currently, long-term outcomes of cases with confirmed leakage are unclear and further research into the benefit of laser is required. All infants with persistent avascular retina after ROP screening require frequent outpatient clinical follow-up with dilated fundus examination. The data obtained from IVFA studies should help to define the natural history of peripheral vascularization in ROP.

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Editor

REFERENCE

1. Mansukhani SA, Hutchinson AK, Neustein R, Schertzer J, Allen JC, Hubbard GB. Fluorescein angiography in retinopathy of prematurity: comparison of infants treated with bevacizumab to those with spontaneous regression. *Ophthalmol Retina*. 2019;3:436-443.

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