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Pediatric ophthalmoscopy by video laryngoscope

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Bilateral multiple-layer retinal hemorrhages are typical of inflicted head injury in infants but are challenging for intensivists to identify and document. A simple tool for non-ophthalmologists to capture retinal images would be valuable.

A 2-month-old boy, transferred to our hospital after cardiopulmonary resuscitation, presented with healing rib fractures and brain MRI changes suggesting whole brain and brain stem hypoperfusion injury consistent with the recent cardiac arrest. Inflicted injury was an important potential diagnosis. There was no light reflex in either dilated pupil. An ophthalmologist was unavailable at nighttime. We urgently needed to check and record images of hemorrhage in the fundus (Fig. 1). A video laryngoscope was used (AWS-S100L, Pentax, Japan); no obvious hemorrhage was observed in either fundus.

Fig. 1 Ophthalmoscopy by video laryngoscope. An image of the fundus was taken manually using video laryngoscope (a) and includes optic disc (white arrow), yellow spot (black arrow), and main retinal arteries surrounding the yellow spot (arrow heads) (b). The quality of the image is acceptable as an initial check for diagnosis

Video laryngoscope is a common modality for daily clinics in ICU, including a CCD camera with an LED. Clear images of the fundus were obtained at the outset, including optic disc and yellow spot to record the initial clinical data. Ophthalmoscopy by video laryngoscope in children is a simple and useful method for clinicians in PICU, especially in the context of possible inflicted injury.

Conflicts of interest There is no conflict of interest.