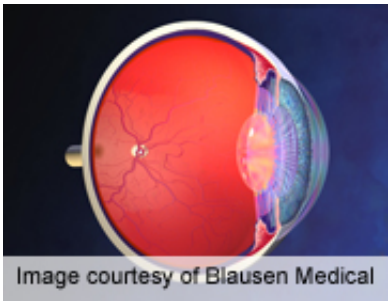
Retinal hemorrhage pattern can predict inflicted brain injury

October 9 2012



In children under the age of 3, a high dot-blot count for retinal hemorrhages is a strong predictor of inflicted traumatic brain injury rather than accidental traumatic brain injury, according to research published online Oct. 8 in *Pediatrics*.

(HealthDay)—In children under the age of 3, a high dot-blot count for retinal hemorrhages (RHs) is a strong predictor of inflicted traumatic brain injury (ITBI) rather than accidental traumatic brain injury (ATBI), according to research published online Oct. 8 in *Pediatrics*.

Robert A. Minns, M.B., B.S., Ph.D., of the Royal Hospital for Sick Children in Edinburgh, U.K., and colleagues conducted a six-year, observational, prospective study involving 114 infants and young children admitted to the pediatric intensive care unit with traumatic and nontraumatic encephalopathies. The authors sought to evaluate whether RHs, observed using wide-field retinal imaging within 24 hours, could be

used to reliably distinguish between ITBI and ATBI.

The researchers noted significant differences in the average number of RHs as well as in their location and depth. RHs associated with ATBI were near the optic disc and more superficial than those in ITBI. In contrast, RH due to ITBI tended to be more peripheral and involve deeper layers. In children under the age of 3 years with greater than 25 dot-blot (intraretinal) hemorrhages, the positive predictive value for ITBI was 93 percent.

"This article presents the first prospective study with objectively measured RHs from all possible etiologies in children and predicts inflicted brain injury from certain RH characteristics alone," the authors write.

More information: Abstract
Full Text (subscription or payment may be required)