

Clinical Image

Retinal Hemorrhages with Abusive Head Trauma

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INTRODUCTION

Abusive head trauma (AHT) is perpetrated when an infant or young child is shaken violently, resulting in injuries to various intracranial structures, historically called “shaken baby syndrome”. Retinal hemorrhages are cardinal manifestations of AHT [1,2]. Kivlin et al. [3] reported that retinal hemorrhages were bilateral in 85% of affected children and varied in type and location. We present fundus photographs from three cases of AHT.

CASE REPORTS

Three patients were consulted for suspect AHT from pediatricians.

Case 1- An eight-month-old male infant was admitted with drowsiness. Ophthalmoscopic examination revealed preretinal and intraretinal hemorrhages (Figure 1A) in both eyes. He developed severe brain atrophy.

Case 2- A four-month-old male infant had preretinal, intraretinal and subretinal hemorrhages (Figure 1B) in both eyes. He died one month later.

Case 3- A three-month-old male infant had massive preretinal hemorrhage (Figure 1C) in both eyes. This hemorrhage gradually disappeared.

DISCUSSION

Maguire et al. [4] reported the retinal signs that distinguish AHT from non-AHT. According to their meta-analysis, retinal hemorrhages were found in 78% of AHT. In a child with head trauma and retinal hemorrhages, the Odds ratio that this was

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AHT was 14.7 and the probability of abuse was 91%. Retinal hemorrhages were bilateral in 83% of AHT compared with 8.3% in non-AHT. Retinal hemorrhages were numerous in AHT, and few in non-AHT located in the posterior pole, with only 10% extending to periphery.

In addition, the severity of retinal hemorrhages in AHT correlates with death [3]. For 110 patients examined by ophthalmologists shortly after their injury, the presence of any retinal hemorrhage increased the risk of death by 5.12 (odds ratio) [3]. There was a significant trend toward an increasing risk of death from no hemorrhage (10%) to unilateral hemorrhage (23%) to bilateral hemorrhage (38%). Poor visual response, poor pupillary response and retinal hemorrhage correlated strongly with the demise of the child. Vision loss is most often the result of brain injury. The first two cases in our series involved mild/moderate retinal hemorrhages. On the other hand, the third case showed massive preretinal hemorrhage. However, only second case, the infant died. Therefore, the severity of retinal hemorrhages in AHT might not always correlate with death.

Pediatricians sometimes request consultations with us for ophthalmic manifestations of AHT. The fundus photographs included in the presented cases here were somewhat blurred. When caring for a traumatically injured child, a fundus photograph is obtained under conditions in which it is more important to take care of the general condition of the child. We would like to emphasize that the retinal hemorrhages were varied in type and the clinical course also varied.

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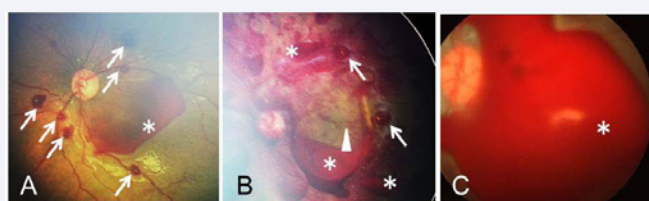


Figure 1 Fundus photographs with abusive head trauma.

A: Preretinal and intraretinal hemorrhages of the left eye.

B: Preretinal, intraretinal and subretinal hemorrhages of the left eye.

C: Preretinal hemorrhage of the left eye.

Arrow, asterisk and arrowhead indicate intraretinal, preretinal and subretinal hemorrhages, respectively.

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