Intracerebral Hematoma in an Infant with Herpes Simplex Encephalitis

Herpes simplex virus (HSV) encephalitis is a leading cause of sporadic encephalitis in children [1]. Neurological findings are mostly related to dysfunction of the fronto-temporal lobes. Intracerebral hematoma complicating herpes encephalitis is unusual and extremely rare in children.

A four-month-old developmentally normal male infant with uneventful antenatal and neonatal period, on exclusive breast feeds, was brought to us with history of low grade fever for two days and recurrent brief episodes of focal seizure in the form of clonic movements of upper limb with upward gaze and unresponsiveness. On examination, infant was alert with no encephalopathy or focal neurological deficit. Head circumference was 41.5 cm. Anterior fontanelle was normal. Sepsis workup was non-contributory. CSF analysis showed elevated protein (63 mg/dL), normal glucose (73 mg/dL), and 10 lymphocytes and 600 red blood cells per high power field. CSF HSV-1 DNA PCR was positive. Initial MRI brain showed hemorrhage in bilateral postcentral gyrus (left more than right) and restricted diffusion in right thalamus, bilateral fronto-parietal regions, left posterior temporal white matter and right insula. He was treated with acyclovir and fosphenytoin. One week after admission, infant had recurrent brief episodes of left focal seizure. Seizures were controlled with leviteracetam and clinically infant remained stable with no encephalopathy or neurological deficit. Repeat MRI brain showed subacute intraparenchymal hematoma with adjacent edema in the bilateral frontoparietal regions and insula and significant increase in hemorrhage compared to previous scan. Baseline workup for bleeding diathesis (PT, aPTT, screening for factor XIII deficiency) was normal. No neurosurgical intervention was attempted, clinically, infant remained stable. Infant was discharged on oral anticonvulsants, after completion of 3 weeks of parenteral acyclovir. On follow up, at 11months of age, he is developmentally normal with no focal deficit and no recurrence of seizure.

Intracerebral hematoma complicating herpes encephalitis has been reported in adults, but is rare in children [2]. The mechanism of hemorrhagic complication is unclear. Possible mechanisms proposed include small vessel rupture secondary to vasculitis and transient hypertension caused by raised intracranial pressure [3]. The lack of improvement or the worsening of initial symptoms, particularly during the second week of admission, should lead to this suspicion and to perform a neuroimaging study. A few patients have required surgical intervention and over all prognosis is usually favorable [4].

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