Acute adrenal failure in a term newborn with congenital cytomegalovirus infection

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Background

Bilateral adrenal hemorrhage is rare in newborns and even more rarely does it manifest itself as acute adrenal insufficiency (AI). Cytomegalovirus (CMV)-associated AI is a well-known in adults with acquired immunodeficiency syndrome. AI is not a common finding in children with congenital CMV infection. We describe herein the case of a newborn infant presenting with adrenal hematomas (AH), AI and congenital CMV infection.

CASE REPORT

A 20-day-old female was referred to Neonatal intensive Care Unit with lethargy, poor feeding, paleness and hypotension. She presented metabolic acidosis, hyponatremia, hyperkalemia and anaemia. The abdominal US revealed bilateral heterogeneous soft-tissue mass lesion in adrenal glands, consistent with AH. Hormonal evaluation revealed altered circadian rhythm of cortisol, markedly elevated plasma adrenocorticotropic hormone levels; reduced cortisoluria; normal 17-hydroxyprogesterone level. Replacement therapy with glucocorticoids was rapidly initiated, followed by resolution of clinical picture of AI. Serial ultrasound examination showed complete regression of AH within 5 weeks. Cranial US revealed the picture of “candlestick” lenticulostriate vasculopathy, commonly found in infants with congenital CMV infection. Anti-CMV IgM and IgG antibody index values were elevated and quantitative CMV viral load in blood and urine showed significant viremia. Maternal serology was negative for anti-CMV IgM but positive for anti-CMV IgG. Serology was negative for human immunodeficiency virus (HIV). Chorioretinitis was observed on ophthalmologic examination and hearing loss was diagnosed by auditory brainstem evoked response testing. Ganciclovir therapy was started and continued for 6 weeks. The steroid dosage was tapered over the course of 3 months and gradually discontinued.

Conclusion

1) This is, to our knowledge, the first reported case of acute AI in a HIV negative newborn with bilateral AH and congenital CMV infection.
2) On the basis of this case history, we suggest to investigate adrenal function in CMV-infected newborns who present with unexplained electrolyte imbalances, weight loss, or hypotension.