Neuroimaging of Congenital Cytomegalovirus

Karina Lie Akinaga, Fabiano Reis and Maria Augusta Montenegro

Department of Neurology, State University of Campinas, Brazil

Corresponding author:
Maria Augusta Montenegro

guga.32@hotmail.com

Department of Neurology, FCM Unicamp, Rua Tessália Vieira de Camargo, 126, CEP: 13083-887; Campinas, SP, Brazil.

Tel: 55 19 35217372


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We present three patients with developmental delay, hearing impairment and microcephaly. Although all three patients have congenital cytomegalovirus (CMV) infection and all three have similar clinical presentation, the neuroimaging findings are completely different in each patient.

CMV is a type of herpesviruses. It affects the fetus transplacentally, and is one of the most common causes of congenital infection. Most congenitally infected children do not have symptoms. However, some patients can present the classical symptoms of intrauterine growth retardation, prematurity, petechiae, hepatosplenomegaly, jaundice, microcephaly, hearing impairment, chorioretinitis and brain abnormalities [1].

The diagnosis is established by polymerase chain reaction of urine or saliva samples [2]. The isolation of the virus through viral culture can also be performed. The virus should be detected within 2-3 weeks of life.

The most common neuroimaging findings include intracranial calcification (Figure 1A), polymicrogyria (Figure 1B), and white matter disease (Figure 1C). Differential diagnosis should include congenital toxoplasmosis, isolated polymicrogyria and leukodystrophy.

Congenital CMV treatment and prevention remains a challenge. Recent evidence showed that treatment with hyperimmune globulin did not significantly modify the course of primary CMV infection during pregnancy [3].

![Figure 1](image-url)
References

