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An Ischemic Stroke Complicating Acute Dehydration in an Infant: A Case Report

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Abstract **Case Report**

Stroke in children is an important public health problem because, even if it is 10 folds less frequent than in adults, it may have severe consequences. Therefore, it is important to know the initial clinical symptoms of stroke in children as well as the lack of aphasia opposed to the great frequency of epilepsy, and dystonia. The causes are different; genetic, cardiac or thrombophilic origin. Prognosis is more favourable compared to that of adults. The management of stroke in childhood must be included in the stroke network of adults, associating the paediatricians.

Keywords: Ischemic Stroke, Epidemiology, Risk factors, Dehytdratation, Outcome, Child.

INTRODUCTION

The incidence of ischemic stroke in children and newborns varies from 1.3 to 13/100,000 children/year. However, it can have serious consequences on subsequent psychomotor development.

The causes are different from those in adults. They are dominated by genetic, cardioembolic, thrombophilic causes, dissections and acute dehydration. The prognosis is, in general, more favorable than that of adults. We report a case of stroke complicating acute dehydration in a 4-month-old infant.

CLINICAL OBSERVATION

M. K. is a 4-month-old infant, 4th of a family of 4, from a consanguineous marriage, a well-monitored pregnancy, carried to term with a vaginal delivery and a good adaptation to extra-uterine life and without incident in the neonatal period, good psychomotor development

He was brought to the pediatric emergency room for treatment of right hemibody heaviness with facial involvement.

The clinical examination found a conscious infant, afebrile, tachycard at 160 beats/minute, eupneic, seriously dehydrated. The cardiovascular and pleuropulmonary examination were unremarkable. The neurological examination revealed right hemiplegia with facial involvement.

The treatment was based on intravenous rehydration of the infant, oxygen therapy with performance of a cerebral computed tomography (CT) scan showing the presence of a hypodense left hemispherical area, exerting a mass effect on the ipsilateral lateral ventricle and on the midline which is deviated to 8mm achieving subfalcorial engagement.

As part of the etiological assessment, the electrocardiogram revealed a regular and sinus rhythm, the echocardiography as well as the ultrasound of the supra-aortic trunks did not reveal any abnormality.

Magnetic resonance imaging (MRI) was performed showing:

- A restriction of diffusion in the territory of the left sylvian artery in axial sections (figure 1).
- A total occlusion of the left internal carotid artery in 3D TOF sequence (figure 2).
- A T2 hypersignal in the left sylvian territory in T2 sequence (figure 3).

Sickle cell disease was ruled out by hemoglobin electrophoresis. The thrombophilia assessment was normal with protein C, protein S and antithrombin III levels of 76%, 106% and 125% respectively; testing for protein C resistance was negative. Antinuclear

antibodies, circulating anticoagulants, anti-beta2-glycoproteins as well as anticardiolipin antibodies were negative, eliminating anti-phospholipid syndrome.

The implication of acute dehydration in the occurrence of ischemic Stroke was retained.

The infant was put on an intravenous rehydration regimen and aspirin at an anti-platelet dose with motor and respiratory physiotherapy. The progress was good with progressive improvement in tone and motor skills.

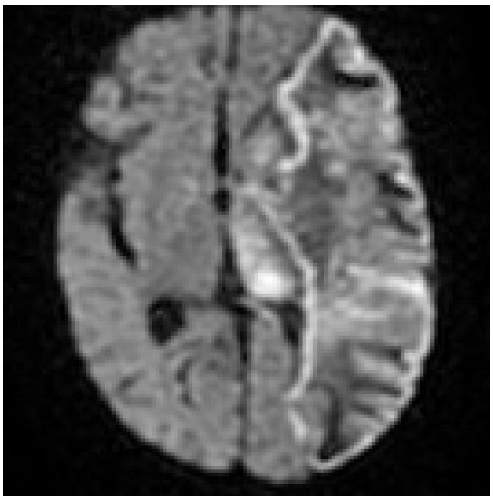

Figure 1: A restriction of diffusion in the territory of the left sylvian artery in axial sections

Figure 2: A total occlusion of the left internal carotid artery in 3D TOF sequence

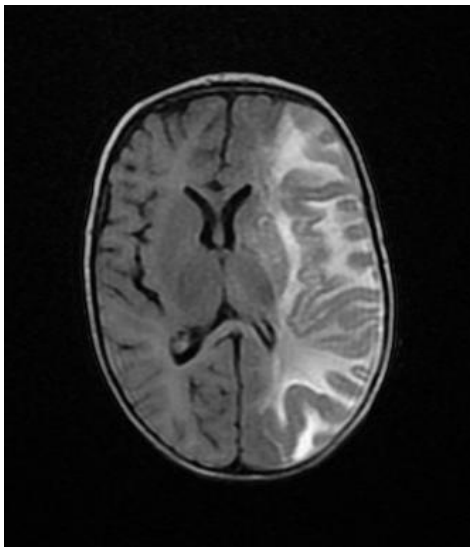

Figure 3: A T2 hypersignal in the left sylvian territory in T2 sequence

DISCUSSION

Stroke in children can be secondary to various causes, different from those in adults. Its incidence is relatively low, 2.5 to 2.7/1,000,000, which makes it difficult to carry out rigorous studies taking into account the particularities of the child [1].

Clinically, stroke manifests as a focal neurological deficit associated with impaired vigilance and epileptic seizures. Diagnostic confirmation benefited from the contribution of MRI and angio-MRI which offer the advantage of early diagnosis and monitoring of vascular lesions [1,2].

REFERENCES

1. Carlin, T.M. & Chanmugam, A. (2002). Stroke in children. *Emerg Med Clin North Am*. 671–85.
2. Carvalho, K. S., & Garg, B. P. (2002). Arterial strokes in children. *Neurologic clinics*, *20*(4), 1079-1100.