

Chickenpox is Not Always Benign: Ischemic Stroke in A 4-Month-Old Infant

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DOI: [10.36347/sjmcr.2021.v09i08.014](https://doi.org/10.36347/sjmcr.2021.v09i08.014)

| Received: 08.06.2021 | Accepted: 06.07.2021 | Published: 27.08.2021

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Abstract

Case Report

Chickenpox is an eruptive disease that can cause neurological complications. We report the case of a 4 month-old infant who presents an ischemic stroke post varicella. The aim of our work is to focus on the preventive measures and the modalities of the management of complicated cases of this affection.

Keywords: chickenpox, ischemic stroke, a 4-month-old infant, prevention, vaccine.

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INTRODUCTION

Chickenpox is an eruptive disease caused by the varicella zoster virus (VZV) which mainly affects children around preschool age and whose course is generally benign. Complications occur in 3% of cases.

CASE REPORT

a 4-month-old infant with a history of chickenpox that happened 20 days before with the notion of contagion from his 4-year-old older sister. He presented partial convulsive seizures occupying the left hemibody, and fever at 38. ° C as revealed by clinical examination. In addition to this, generalized chickenpox scars (figure1) could be noticed predominantly on the trunk, associated with left hemiparesis, without stiffness of the neck, though.



Fig-1: Generalized chickenpox scars

The brain CT objectified right ischemic temporo-parietal lesions (figure2); brain MRI shows a right temporo-parietal hemorrhagic stroke with significant mass effect (figure3), thus contraindicating lumbar puncture. However, the hemostasis assessment is normal, and the inflammatory assessment is without abnormalities.

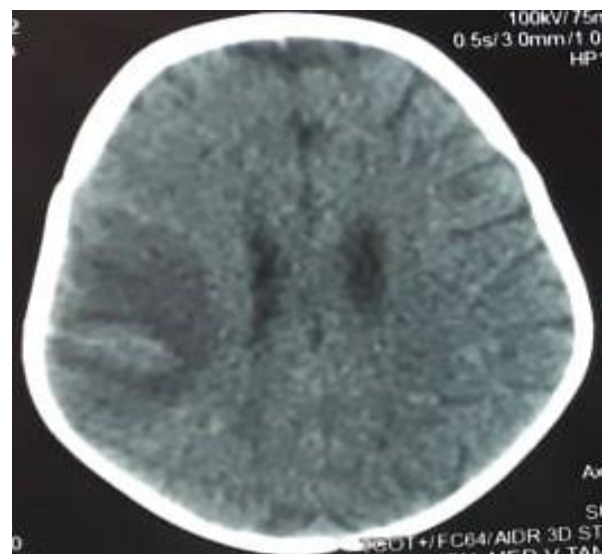


Fig-2: The brain CT objectified right ischemic temporo-parietal



Fig-3: The brain MRI shows a right temporo-parietal hemorrhagic stroke with significant mass effect

The diagnosis of a post varicella ischemic stroke was retained; the infant received antiviral treatment with acyclovir for 10 days and an antiepileptic drug of the carbamazepine type combined with regular motor rehabilitation. This course of action was good, marked by the cessation of the seizures. It is noted that the rest of the thrombophilia assessment performed returned without abnormalities.

DISCUSSION

Several studies concerning the evaluation of complications of chickenpox have been developed and a certain number of risk factors for severe or complicated chickenpox have been identified: age being the most important one; Children under 5 are at a high risk of having complications, especially infectious ones, and mortality in infants under 1 year old is 4 times higher than in older children. Neurological complications come in second place as a risk factor, in particular cerebellitis and ischemic vascular accidents. Thus, VZV occupies an important place among the infectious factors causing cerebral vascular disease and pediatric cerebrovascular accidents. The mechanism of injury is quite simple: the virus migrates into the brain via a retrograde neuronal route from ganglionic sites and causes direct vascular damage such as vasculitis in the basal ganglia, provoking vascular stenosis. On the therapeutic level, an expert consensus has yet to be defined on the indications for acyclovir in neurological

complications in pediatric age. In parallel, the initiation of antiplatelet therapy is also recommended.

CONCLUSION

Chickenpox is not always benign, hence the need to introduce the anti-VZV vaccine as soon as possible in our immunization program in order to avoid neurological complications which can lead immediately or remotely to a significant neurological handicap.

REFERENCES

1. Ella-Ondo, T., Mimbila-Mayi, M., & Nguéma-Edzang, B. (2016). Accident Vasculaire Ischémique Complicant Une Varicelle chez un Enfant Immunocompétent. *HEALTH SCIENCES AND DISEASE*, 17(3).
2. Floret, D. (2020). Varicelle et zona de l'enfant. *Journal de Pédiatrie et de Puériculture*, 33(2), 52-68.
3. Thomas, S. L., Minassian, C., Ganesan, V., Langan, S. M., & Smeeth, L. (2014). Chickenpox and risk of stroke: a self-controlled case series analysis. *Clinical infectious diseases*, 58(1), 61-68.
4. Livonnet, M. (2018). Diagnostic en urgence des accidents vasculaires cérébraux pédiatriques extra-hospitaliers pris en charge au CHU de l'HFME à Lyon: état des lieux entre janvier 2013 et juin 2017 (Doctoral dissertation).
5. Monteventia, O., Chabrierb, S., Flussa, J. (2013). *Archives de Pédiatrie* 2013;20:883-889
6. Moriuchi, H., & Rodriguez, W. (2000). Role of varicella-zoster virus in stroke syndromes. *The Pediatric infectious disease journal*, 19(7), 648-653.
7. Mineyko, A., & Kirton, A. (2013). Mechanisms of pediatric cerebral arteriopathy: an inflammatory debate. *Pediatric neurology*, 48(1), 14-23.
8. DeVeber, G., & Kirkham, F. (2008). Guidelines for the treatment and prevention of stroke in children. *The Lancet Neurology*, 7(11), 983-985.
9. CDC Guidance. (2015). Varicella vaccination in the European Union; 2015 <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/Varicella.Guidance-2015.pdf>.
10. Marin, M., Marti, M., Kambhampati, A., Jeram, S. M., & Seward, J. F. (2016). Global varicella vaccine effectiveness: a meta-analysis. *Pediatrics*, 137(3).