

Radiological Findings in Microcephaly Cases During 2015-2016 Zika Outbreak: A Descriptive Study



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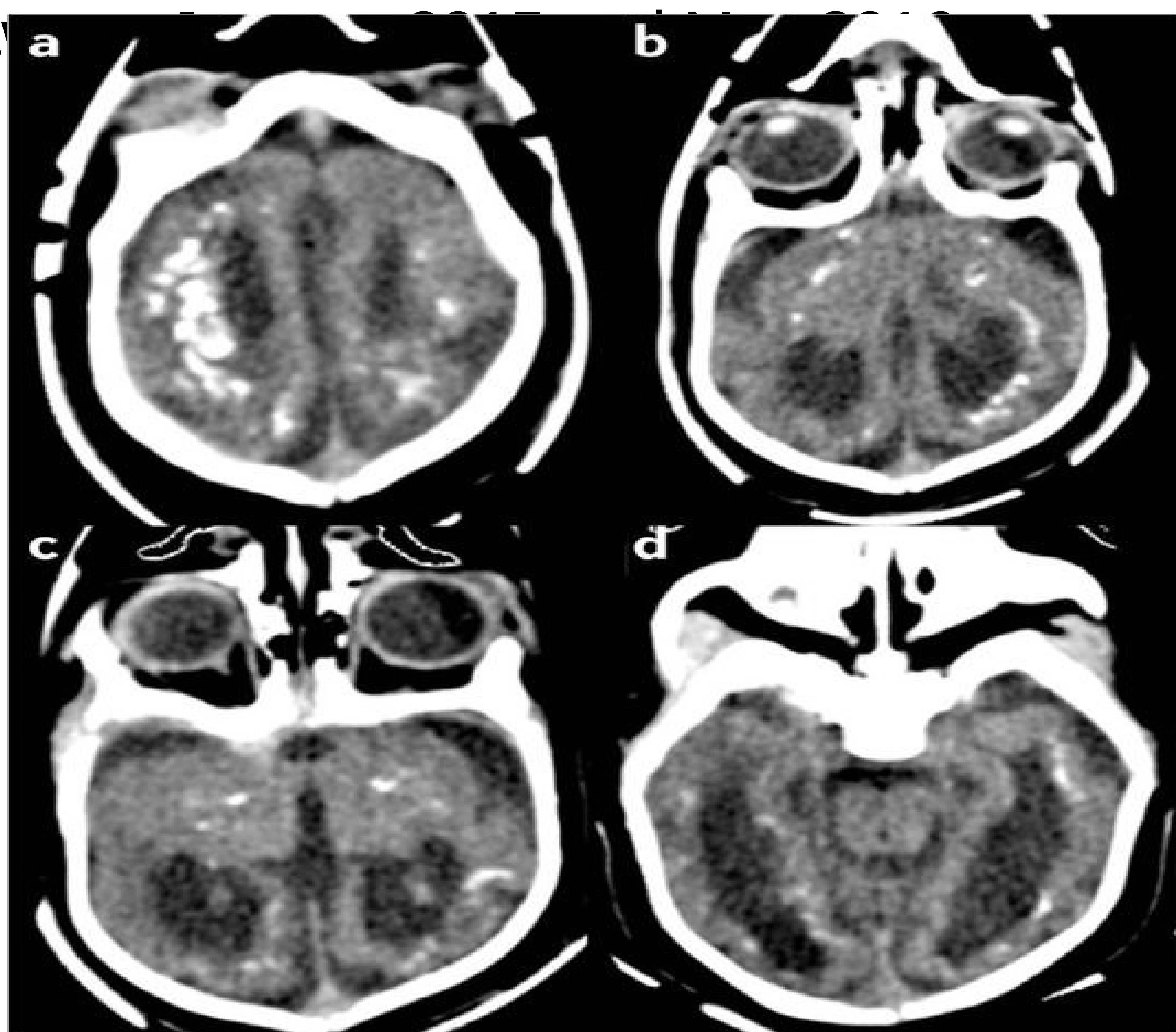
Objective: This study aimed to evaluate CT scan findings in living babies whose mothers had exanthematous diseases (ED) compatible with ZIKV infection during their pregnancy.

Background: Studies have demonstrated radiological findings in microcephaly (MCP) related to Zika virus (ZIKV). The 2015-2016 ZIKV epidemic led to an increase in the prevalence of MCP in the northeast region of Brazil. Rio Grande do Norte State (RN), a Brazilian northeast state, was highly impacted by this outbreak.

Design/Methods:

→ **COHORT STUDY** ←

- We evaluated the CT brain scan images of 38 subjects up to 17 months whose mothers had ED during pregnancy.
- All these MCP cases were followed at a reference center for children rehabilitation in RN.
- Cohort enrollment occurred within babies born between



Results: All subjects had brain volume reduction, followed by intracranial calcification (N=27). Lissencephaly and ventricular dilatation were found in 19 cases. Pachygyria was observed in 11 subjects (28.9%) and cerebellar atrophy was observed in 8 subjects (21%). All subjects reported with pachygyria had lissencephaly. In addition, all subjects observed with intracranial calcifications had pachygyria.



Conclusions: It is a large and well detailed case series of CT brain scan performed in **LIVING BABIES** with MCP related to ZIKV. These findings observed are supportive evidence to prove the severity of brain damages caused by ZIKV due to its neurotropism. This pattern of CT scan images should be compared with CT brain images observed in others studies in MCP cases related to ZIKV. Furthermore, our results might be compared with CT brain scan images from MCPs related to other infectious diseases (STORCH positive) that can also lead to central nervous system alterations. It will certainly help differentiate the etiology of MCP.

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