

Follow up of Children with Confirmed Perinatal Zika Virus (ZIKV) Exposure: The First 2 years-experience in the Costa Rican Tertiary Pediatric Hospital

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Background

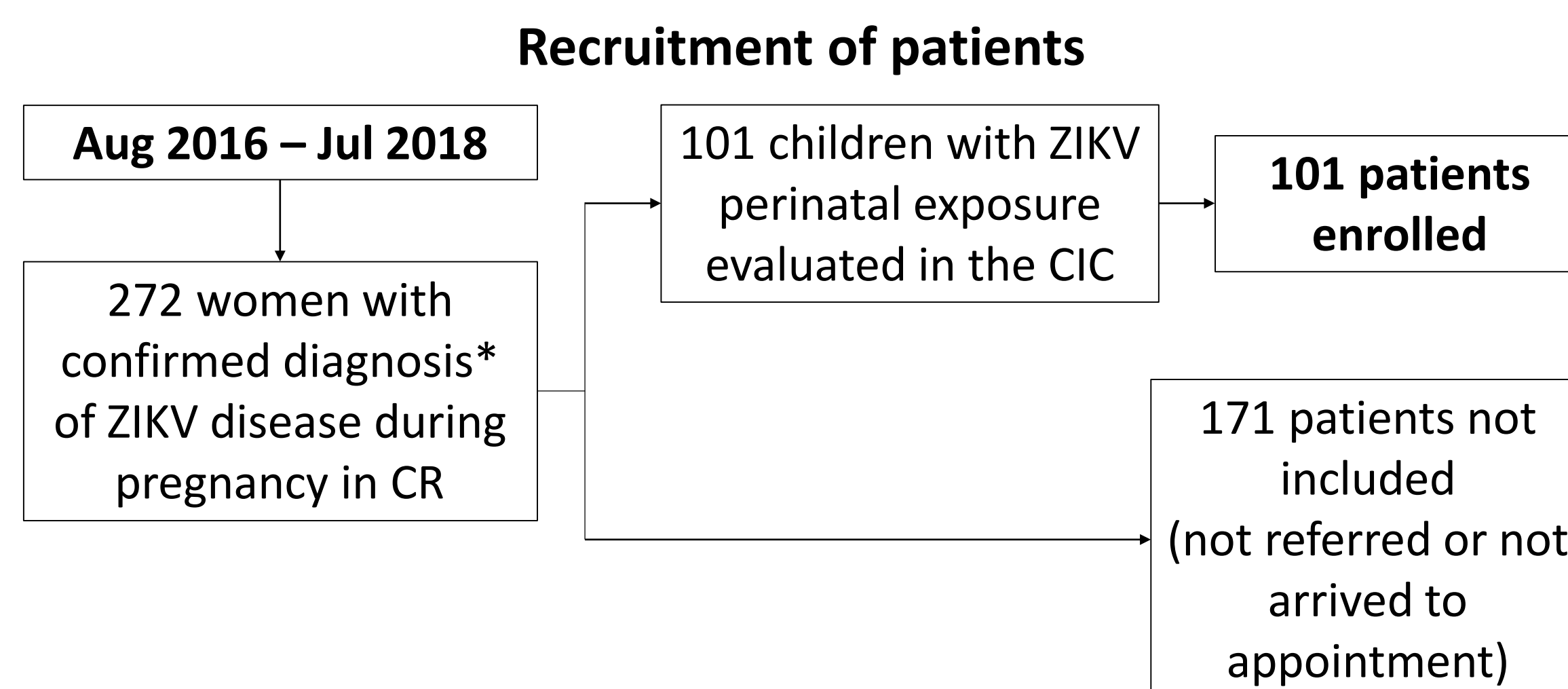
- Costa Rica (CR) has local transmission of ZIKV Infection since February 2016.
- Even though neurological sequelae are well described at birth in patients with Perinatal Infection (PI), affected patients can develop symptoms within months after.

Objective

To describe the findings at presentation and follow-up of patients with perinatal ZIKV exposure evaluated in the Congenital Infections Clinic (CIC) at the only tertiary pediatric hospital in the country.

Methods

Retrospective cohort study
Patients born: August 1st, 2016 - July 31st, 2018



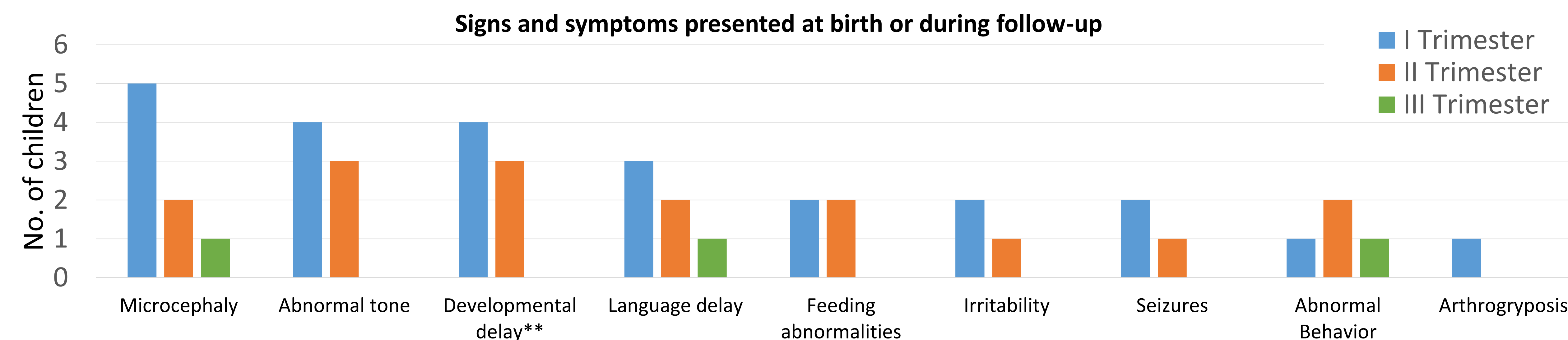
* Diagnosis confirmed by rRT-PCR. Test only performed in symptomatic pregnant women within 5-7 days of symptoms.

Results

Clinical data by trimester of Perinatal Exposure

	All patients (n=101)	Perinatal Exposure I Trimester (I T) (n=34)	Perinatal Exposure II Trimester (II T) (n=55)	Perinatal Exposure III Trimester (III T) (n=11)	p value
Age at first evaluation (months)	4.2 (3.23-7.09)	4.19 (3.23-6.13)	4.05 (3.21-7.00)	5.0 (4.13-10)	0.28
Total follow-up (months)	10.16 (4.9-16)	11.5 (9-16)	12.0 (6-17)	12.0 (11.1-16.3)	0.88
Gestational age in wk	39 (38-40)	39 (37.5-40)	39 (38-40)	39 (38-40.3)	0.73
Head circumference at birth (cm)	34 (33-35)	34 (33-35)	34 (33-35)	34 (33-34)	0.68
Microcephaly at birth, n (%)	8 (8)	4 (12)	4 (7)	0	0.44
Microcephaly at follow up appointments, n (%)	8 (8)	5 (15)	2 (4)	1 (9)	0.17
Neurologic abnormalities, n (%)	14 (13.8)	8 (24)	6 (11)	0	0.09
Abnormal Cerebral Imaging, n (%)	10 (10)	5 (15)	4 (7)	1 (9)	0.52
Ocular abnormalities, n (%)	2 (2)	1 (3)	1 (2)	0	0.82
Hearing abnormalities, n (%)	1 (1)	0	1 (2)	0	0.66
Congenital ZIKV Syndrome (CZS), n (%)	3 (3)	3 (9)	0	0	-
Congenital ZIKV Infection (CZI), n (%)	2 (2)	1 (3)	1 (2)	0	0.82

Continuous variables are expressed as medians 25%-75% Interquartile range (IQR). Categorical data as numbers and percentages.



** Developmental delay (in motor and language areas) was diagnosed using DENVER II test

CASE DEFINITION	
Perinatal ZIKV Exposure	Patients born from mothers with confirmed ZIKV infection during pregnancy.
Perinatal ZIKV Infection	Symptomatic patients born from mothers with confirmed ZIKV infection during pregnancy.
Congenital ZIKV Syndrome	Symptomatic patient with confirmed ZIKV infection at birth (done by RT-PCR or specific IgM).
Congenital ZIKV Infection	Asymptomatic patient with confirmed ZIKV infection at birth (done by RT-PCR or specific IgM).

Conclusions

- Microcephaly is infrequent, with data showing it affects less than 1-4% of newborns exposed to ZIKV.
- Most neurological abnormalities are documented in patients infected early in pregnancy (I-II T).
- Minor language and behavior abnormalities (reported by parents) are also present in patients with late perinatal exposure (III T).
- Asymptomatic patients at birth can develop neurologic abnormalities within time, so follow-up beyond 2 years of age may be important to identify further developmental abnormalities in these patients.

Acknowledgments

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