

Is maternal Valacyclovir therapy for primary CMV infection associated with improved neonatal outcomes?

Evidence from a retrospective cohort study

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BACKGROUND

- Congenital CMV is the **leading infectious cause** of sensorineural hearing loss and neurodevelopmental impairment.
- Risk of **neonatal symptoms and long-term sequelae** is highest after **periconceptual** and **first-trimester** primary maternal infection.
- Valacyclovir may reduce maternal-fetal transmission, but its effect on **neonatal and long-term outcomes** remains unclear.

OBJECTIVE

To evaluate the impact of valacyclovir treatment after primary maternal CMV infection in early pregnancy on **fetal transmission** and on **neonatal and long-term outcomes**.

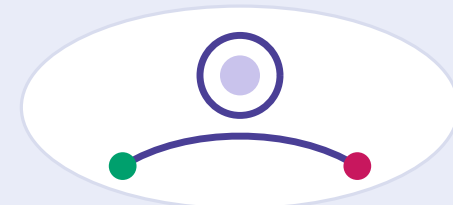
METHODS

- **Retrospective cohort study**, single tertiary center
- Confirmed **primary maternal CMV infection** in the periconceptual period or first trimester
- Fetal infection determined by **CMV PCR in amniotic fluid** and by **neonatal saliva / urine** testing
- Prenatal imaging, neonatal and long-term outcomes compared: **valacyclovir vs. no therapy**

STUDY COHORT

911

pregnant women with primary CMV infection in early pregnancy



99

Valacyclovir treated (10.9%)

812

No antiviral therapy (89.1%)

Timing of maternal infection

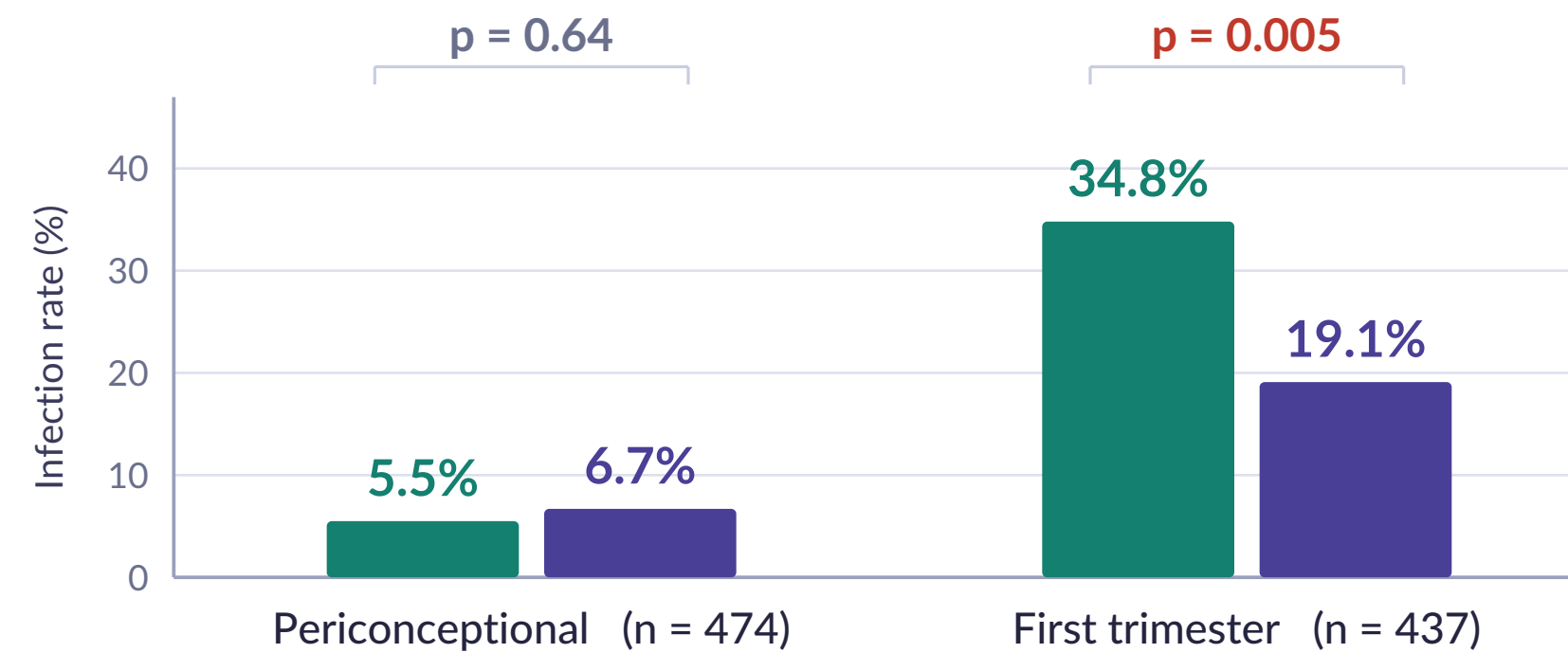
Periconceptual **n = 474**

First trimester **n = 437**

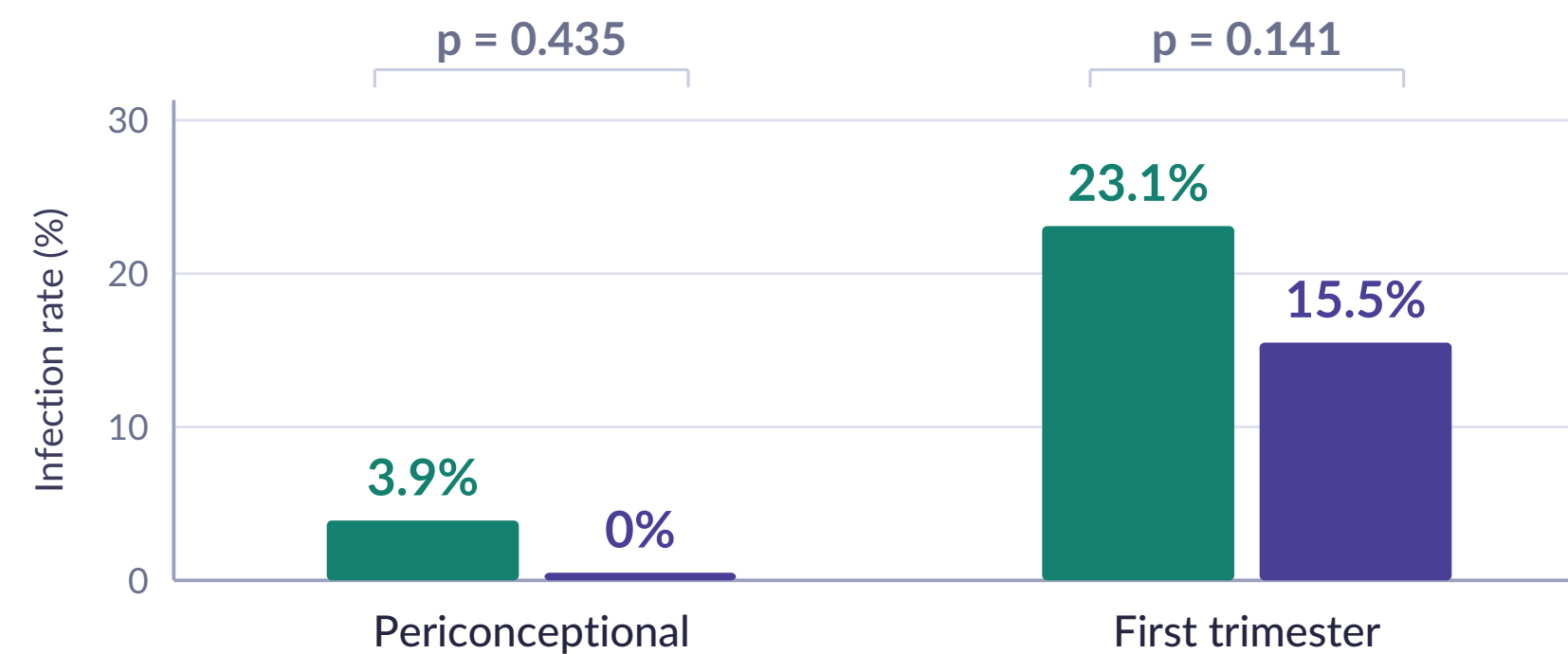
Amniocentesis CMV PCR, neonatal saliva / urine PCR, neonatal course and long-term follow-up were compared between groups.

RESULTS

■ No treatment ■ Valacyclovir
Fetal CMV infection - amniocentesis PCR



Positive CMV infection in AC or neonatal saliva / urine



NEONATAL & LONG-TERM OUTCOMES

Outcome	Valacyclovir	No therapy	p
Neonatal symptoms	13.5%	11%	0.60
Postnatal antiviral therapy	2.7%	7%	0.36
Mild cranial US findings	10.8%	7.9%	0.55
Hearing impairment	8.1%	8.2%	0.97
Neurodevelopmental impairment	2.7%	5%	0.48

Positive neonatal saliva / urine PCR after a negative amniocentesis

11.5%

Valacyclovir

4.7%

No therapy

p = 0.16

Hearing impairment in **1 of the 3** affected infants (treated group).

CONCLUSIONS

- Valacyclovir after **first-trimester** primary maternal CMV infection **significantly reduced vertical transmission** (19.1% vs 34.8%, p=0.005).
- No such effect was observed after **periconceptual** infection.
- Analysis of vertical transmission according to **AC or neonatal saliva / urine** did not reveal a significant difference between the two groups.
- **Neonatal and long-term outcomes** did not differ between treated and untreated pregnancies.
- A **negative amniocentesis** does not exclude later vertical transmission of the virus. A **non-significant trend** toward a higher rate was observed following valacyclovir treatment (11.5% vs 4.7%, p=0.16).



Valacyclovir reduced vertical transmission after first-trimester infection, but did not improve neonatal or long-term outcomes