Prematurity and Low Birth Weight in Children Born to Mothers Living With HIV in Spain

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BACKGROUND

Children uninfected but exposed to HIV in utero (CHEU) are at higher risk of prematurity and low birth weight for gestational age (LBWGA)[1,2]. Both factors are associated with long-term growth impairment[3], known to determine health of CHEU, but hard to isolate in resource limited setting where malnutrition is prevalent.

Raltegravir has been widely used during pregnancy[4], but data on new integrase inhibitors regimens during pregnancy in non-limited resource settings is scarce[5].

Our aim was to **describe the incidence of prematurity and LBWGA** among the children of women living with HIV in Spain and **identify potential associated factors.**

METHODS

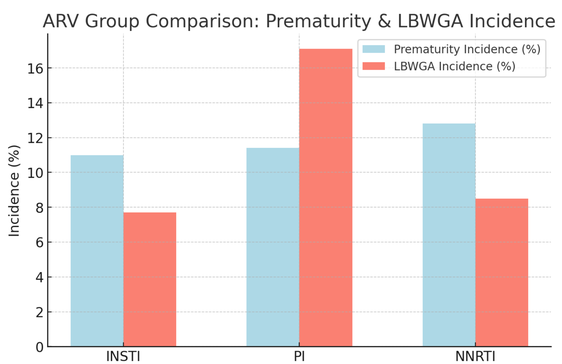
- **Retrospective study** including mother-child pairs from **62 Spanish hospitals** in the National Cohort of Pregnant Women with HIV and their Children.
- All children born between **January 2020 and December 2023** were included.
- Data on obstetric, virological, immunological, and antiretroviral treatment (ART) related variables were analyzed. Association between different regimens and premature birth and/or LBWGA was addressed via univariate logistic regression models.

RESULTS

N= 502 pregnant woman and 516 newborns

PREMATURITY: 11,6%. Median gestational age 34,5 weeks [IQR 32-36]).

LBWGA: 8,7%. Median weight at birth 2365 g [IQR 2067.5-2596.3]).



Real-world data are needed to optimize ART during pregnancy.

Prematurity rates were similar for INSTI, protease inhibitors and NNRTI regimens. However, INSTI associated a lower probability of LBWGA.

OBSTETRIC, VIROLOGICAL AND ART DATA	
OBSTETRIC FACTORS	
Maternal age	36 years [IQR 32-40]
First Pregnancy	44%
Type of Pregnancy	
• Single	97.2%
• Multiple	2.8%
VIH Diagnosis	
• Before Pregnancy	81.8%
• During Pregnancy	17.6%
• At delivery	0.2%
Ethnicity	
• Caucasian	34.9%
• Black	31.7%
• Latin American	25.1%
• Asian	0.7%
VIROLOGICAL AND IMMUNOLOGICAL FACTORS	
CD4 T-cell counts in last prenatal visit	631 mm³ [IQR 437.5-838]
Viral suppression at delivery (<50 copies/mL)	88.4%
MATERNAL ART	
ART during pregnancy	97%
• Integrase Inhibitors (INSTI)	60.4%
• Protease Inhibitors (PI)	7.6%
• Non-nucleoside Reverse Transcriptase Inhibitors (NNRTI)	10%
• Other/Not available	19%

OBSTETRIC FACTORS AND PREGNANCY CONTROL

- **Multiple pregnancies** had 4 times more likelihood of resulting in a **premature birth** compared to single pregnancies (OR 4.78, 95%CI 1.54-14.85; *p=0.006*).
- For each week that the **gestational age increases**, the probability that the newborn will be born with **LBWGA decreases** by 0.3% (For each year: OR 0.84, 95%CI 0.76-0.94; *p=0.003*).
- Having at least one **prenatal checkup** each trimester was associated with 69% **lower likelihood of LBWGA** (OR 0.31, 95%CI 0.14-0.66; *p=0.002*).

VIROLOGICAL AND IMMUNOLOGICAL FACTORS

- No association was found between CD4 count or viral load at the last prenatal checkup and prematurity or LBWGA.

MATERNAL ART

- The probability of **LBWGA decreased** by 85% if the woman had been receiving any **ART during pregnancy** compared to if she had not (OR 0.15, 95%CI 0.03-0.74; *p=0.02*).
- It was **twice as likely that the newborn had LBWGA if the ART was PI-based** compared to INSTI (OR 2.78, 95%CI 1.1-7; *p=0.03*).

CONCLUSIONS

- **Reducing health disparities** for the expanding population of **CHEU** should be **a priority.**
- **Optimizing regimens during pregnancy** is key to preventing poor outcomes, including impaired growth.
- Real-world data and long-term follow-up are needed to identify optimal treatments, but adjusting for potential confounders is extremely challenging.
- Larger cohorts are needed to assess the effect of different ART groups on the incidence of prematurity and fetal growth, and to inform of future prevention and intervention strategies.

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ADDITIONAL KEY INFORMATION

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