ANTIBIOTIC THERAPY IN PRETERM PREMATURE RUPTURE OF THE MEMBRANES

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Objective

To evaluate the maternal and neonatal outcome of women with diagnosis of preterm prelabour rupture of membranes (PPROM) when we optimized the type and duration of antibiotics based on the results from the amniocentesis performed to rule in/out intra-amniotic infection (IAI).

Methods and material

Retrospective observational study (2014-2022) conducted at Hospital Clinic Barcelona including women with PPROM less than 34 weeks with 2 different antibiotic (AB) prohylaxis managements (group 1 and 2). An amniocentesis to rule out IAI was offered at admission before AB administration.

Group 1: 2014-2019	Group 2: 2020-2023
Regardless amniocentesis result, endovenous ampicillin 1g/6h and gentamycin 80mg/8h was administered **during 5 days** with a single dose 1g of oral azithromycin.	Endovenous Ampicillin 2g/6h and ceftriaxone 1g/12h, oral clarithromycin 500mg/12h. **AB was discontinued at 48h if:** - amniotic fluid glucose ≥ 14 mg/dL and no visualization of microorganism at Gram stain. - In case amniocentesis was not technically possible: normal maternal C-reactive protein and white blood cells blood concentrations in 3 daily analyses.

In IAI cases, prolongation of AB for 7-10. days individualizing the type according to antibiogram.

Conclusions

Optimizing AB regimen based on amniocentesis results is associated to a shorter AB duration, a longer latency to delivery and higher rate of outpatient management.

Results

- 268 women with similar maternal characteristics were included. 29% of women had IAI
- A shorter duration of antibiotics, lower administration of tocolysis , higher rate of outpatient management and a longer laterncy from PPROM to delivery were found in group 2. No differences were observed on maternal or neonatal adverse outcomes.

	Group 1 (N= 204)	Group 2 (N= 64)	*p*
GA at PPROM (weeks)	31.1 (27.4; 32.7)	30.7 (26.6; 33.3)	0.9802
Amniocentesis to rule out IAI n (%)	88 (43)	43/63 (68)	< 0.0001
Antibiotics (days)	4 (3;5)	2 (2;2)	< 0.0001
Tocolysis n (%)	102/203 (50.4)	15 (23)	< 0.0001
Outpatient management n (%)	58 (28)	29 (45)	0.012
GA at delivery (weeks)	32.5 (30.4; 34)	33.7 (29.4; 34.4)	0.073
Latency PPROM-delivery (days)	7 (3;16)	10 (4;19)	0.038
Intra-postpartum complications:			
- Puerperal fever n (%)	- 11/201 (5.5)	- 2 (3.1)	0.449
- Clinical chorioamnionitis n (%)	- 14/201 (6.9)	- 5 (7.8)	0.778
- Endometritis n (%)	- 3/201 (1.5)	- 0 (0)	0.326
- Umbilical cord prolapse n (%)	- 3/201 (1.5)	- 1 (1.5)	0.968
Neonatal outcomes:			
- Birthweight (g)	- 1728 (1330; 2162)	- 1760 (1420; 2150)	0.905
- 5 min Apgar score <7	- 13/198 (6.5)	- 4 (6.3)	0.929
- Umbilical Artery pH <7	- 12/152 (8)	- 4/26 (15)	0.217
- Fetal death	- 1/201 (0.5)	- 1 (1.5)	0.391

GA: Gestational age. Continuous variables were compared using MannWhitney U test presented as median (25th; 75th percentil). Categorical variables were compared using Chi-square or Fisher exact tests and presented as number (%)