Gestational age and neonatal outcomes in the cases and comparison groups

Outcome	Cases (sIUGR twins) Median (range)	Controls (non-sIUGR twins) Median (range)	p-value
Gestational age at birth (days)	204 (123-259)	245 (166-268)	<0.001
Birthweight (larger infant) (grams)	1245 (430-2225)	2163 (580-2880)	<0.001
Birthweight (smaller infant) (grams)	1045 (417-2085)	1992.5 (800-2850)	<0.001
	N (%, 95% CI)	N (%, 95% CI)	
Number of live born infants 0 1 2	3 (10.0, 0.0-21.0) 5 (16.7, 3.0-30.4) 22 (73.3, 57.1-89.6)	0 1 (1.2, 0.0-3.7) 80 (98.8, 96.3-100.0)	<0.001
Take home baby rate (number of live born infants surviving the neonatal period) 0 1 2	4(13.3, 0.8-25.8) 8 (26.7, 10.4-42.9) 18 (60.0, 42.0-78.0)	1 (1.2, 0.0-3.7) 1 (1.2, 0.0-3.7) 79 (97.5, 94.1-100.0)	<0.001
BPD (either twin)	13 (43.3, 25.1-61.6)	6 (7.4, 1.6-13.2)	<0.001
IVH (either twin)	6 (20.0, 5.3-34.7)	6 (7.4, 1.6-13.2)	0.083
NEC (either twin)	4 (13.3, 0.8-25.8)	6 (7.4, 1.6-13.2)	0.455
Neurological sequelae due to IUFD	2 (6.7, 0.0-15.8)	0	0.071
PVL (either twin)	1 (3.3, 0.0-9.9)	3 (3.7, 0.0-7.9)	1.00
RDS (either twin)	20 (66.7, 49.3-84.0)	29 (35.8, 25.2-46.4)	0.005
ROP (either twin)	10 (33.3, 16.0-50.7)	6 (7.4, 1.6-13.2)	0.001
Sepsis (either twin)	9 (30.0, 13.1-46.9)	5 (6.2, 0.8-11.5)	0.002

524 Polymicrobial infection of *gardnerella vaginalis* and genital mycoplasmas—but not genital mycoplasmas alone—induces higher fetal membrane pro-inflammatory cytokine response

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OBJECTIVE: Preterm birth (PTB) has been tightly related to amniotic presence of genital Mycoplasmas (*Mycoplasma hominis* (MH) and *Ureaplasma urealyticum* (UU)). However, the microbial diversity can trigger differential immune response. We analyzed cytokine production during polymicrobial infection with MH, UU and *Gardnerella vaginalis* (GV) in human fetal membranes.

STUDY DESIGN: Fetal membranes from normal term Cesareans (n=6), not in labor, were treated with heat inactivated MH, UU and GV at 10^6CFU. The studied groups: unstimulated (control), absence of GV [group 1: MH, UU or MH+UU(10^6CFU)] and presence of GV [group 2: GV, MH+UU+GV(10^6CFU), MH+UU(10^6CFU)+GV(10^3CFU) or MH+UU(10^3CFU)+GV(10^6CFU)] were evaluated regarding pro- and anti-inflammatory cytokines [IL-1β, IL-6, IL-8, TNF-α, IL-12, GM-CSF and, IL-4, IL-10, IL-13, respectively] by Multiplex assay. Data were analyzed by Kruskal-Wallis test. A principal component analysis (PCA) using all parameters was performed to represent the comparison between groups 1 and 2.

RESULTS: Single or combined genital Mycoplasmas stimulation (group 1) had no impact on any pro-inflammatory cytokine, while the combination with GV or GV alone had marked increase in all, but IL-12, compared to control. Also, IL-6, IL-8 and TNF-α were statistically higher in group 2 compared to group 1. Group 1 increased anti-inflammatory IL-13, while group 2 increased both IL-10 and IL-13 compared to control. Presence of GV produced a distinct immune response in PCA analysis (Figure 1).

CONCLUSION: Genital Mycoplasmas combined with GV, but not single or mixed, lead to a pro-inflammatory profile in fetal membranes. Thus, the single amniotic presence of MH and UU, well known PTB-associated risk factor, does not induce an exacerbated pro-inflammatory environment, therefore, might not activate the inflammatory-related PTB-pathways. The precise role of genital Mycoplasmas as either risk modifier or probiotics needs further evaluation.

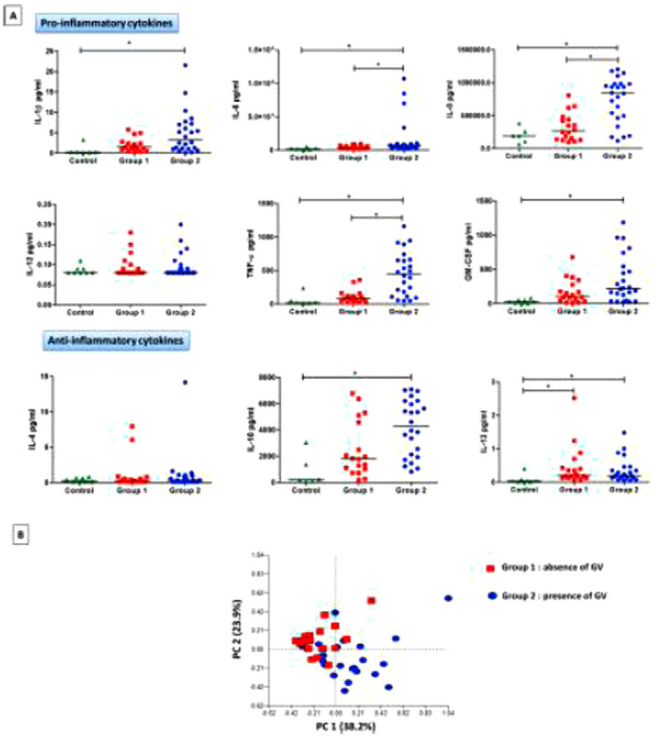

Figure 1. A. Concentration of pro-inflammatory cytokines IL-1β, IL-6, IL-8, IL-12, TNF-α, GM-CSF and anti-inflammatory IL-4, IL-10 and IL-13 (pg/mL) secreted by human fetal membranes maintained in an organ explants system, in the studied groups: unstimulated (control), absence of GV [group 1 - MH, UU or MH+UU (10^3CFU)] and presence of GV [group 2 - GV, MH+UU+GV (10^6CFU), MH+UU (10^6CFU)+GV (10^3CFU) or MH+UU (10^3 CFU)+GV (10^6CFU)]. Comparisons were performed using Kruskal-Wallis test and Dunn's post hoc test, * $p<0.05$; IL-12 and IL-4 were not different among the groups **B.** Scatter plots of the principal component analysis showing variation among the cytokine levels from human fetal membranes stimulated with heat inactivated genital Mycoplasmas without GV stimulation (group 1) and genital Mycoplasmas combined with GV (group 2).

525 Implementation of universal cervical length screening: how do we improve patient acceptance?

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OBJECTIVE: Cervical length (CL) measurement is now accepted as a screening strategy for identifying women at risk of preterm birth (PTB). However, patient acceptability may limit its implementation. In order to improve acceptability of universal CL (UCL) screening, our objective was to identify clinical characteristics associated with women who decline this screening.

STUDY DESIGN: This is a secondary analysis of a prospective cohort study of women offered UCL screening during anatomy scan from January 2012 - June 2012. CL measurement data were collected as part of a quality assurance initiative. Inclusion criteria were women with a singleton gestation between 18 0/7 - 23 6/7 weeks at the time of anatomic survey. Women with a cerclage in place and those with a history of prior spontaneous PTB, receiving 17OHP were excluded. Trained sonographers were instructed to perform UCL screening on all eligible patients using an 'opt-out' approach. Chi square statistics