

Table 1 – Primary and secondary outcomes for the randomized trial

Delivery components	Composite Neonatal Outcomes				Adjusted RR (95% CI)	Adjusted p-value
	Progesterone + Pessary		Progesterone			
	n/N	%	n/N	%		
Mother level	89/463	19.2	91/436	20.9	0.88 (0.69-1.12)	0.306
Neonatal level	98/503	19.4	100/461	21.7	0.85 (0.66-1.10)	0.218
Delivery components	Secondary outcomes				Adjusted RR (95% CI)	Adjusted p-value
	Progesterone + Pessary		Progesterone			
	n/N	%	n/N	%		
Overall < 37 weeks	138/474	29.1	144/458	31.4	0.86 (0.72 - 1.04)	0.114
Overall < 34 weeks	47/474	9.9	64/458	13.9	0.66 (0.47 - 0.93)	<b>0.016</b>
Spont. < 37 weeks	74/474	15.6	84/458	18.3	0.78 (0.60 - 1.03)	0.077
Spont. < 34 weeks	29/474	6.1	41/458	9.0	0.63 (0.40 - 0.98)	<b>0.040</b>
High- effect subgroup: nulliparous, cervix length <25mm, singleton						
Delivery components	Progesterone + Pessary		Progesterone		Adjusted RR (95% CI)	Adjusted p-value
	n/N	%	n/N	%		
	Primary outcome	20/127	15.8	33/120		
Overall < 37 weeks	27/128	21.1	43/127	33.9	0.65 (0.44 - 0.97)	<b>0.034</b>
Overall < 34 weeks	9/128	7.0	26/127	20.5	0.35 (0.17 - 0.70)	<b>0.003</b>

### 3 Prophylactic Manual Rotation of Persistent Occiput Posterior to decrease operative Delivery: a Multicentric Randomized Trial

Julie Blanc<sup>1</sup>, Pierre Castel<sup>2</sup>, Franck Mauviel<sup>3</sup>, Karine Baumstarck<sup>2</sup>, Florence Bretelle<sup>4</sup>, Jean-Baptiste Haumonté<sup>5</sup>, Claude D’Ercole<sup>2</sup>

<sup>1</sup>Department of Gynecology and Obstetrics, AP-HM Assistance Publique-Hôpitaux de Marseille, Health Service Research and Quality of Life Center, Aix-Marseille University, Marseille, France, <sup>2</sup>Assistance Publique Hôpitaux de Marseille, Marseille, France, <sup>3</sup>CH Sainte Musse Toulon, Toulon, France, <sup>4</sup>Marseille University Hospital, Provence-Alpes-Cote d’Azur, France, <sup>5</sup>Hôpital Saint Joseph, Marseille, France

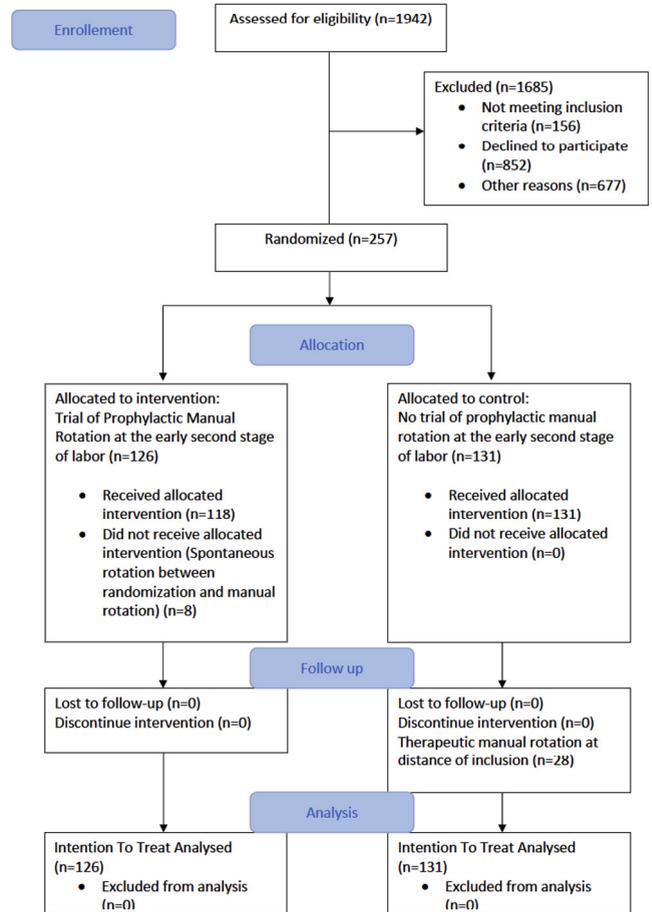
**OBJECTIVE:** Persistent occiput posterior (POP) positions are the commonest malpresentations of the fetal head during labor and are associated with prolonged second stage of labor, cesarean, instrumental deliveries, obstetrical anal sphincter injuries, postpartum hemorrhage and chorioamnionitis. Manual rotation is one of several strategies described to deal with POP. The literature suggests that manual rotation of POP could decrease operative deliveries but no randomized study has confirmed these findings. The aim of this study was to determine if the trial of prophylactic manual rotation during the early second stage of labor is associated with a decrease risk of operative deliveries (instrumental and/or cesarean deliveries). **STUDY DESIGN:** This study was a prospective, randomized, controlled trial conducted in four French hospitals. Women with singleton term pregnancy and POP position confirmed by ultrasound at early second stage of labor and with epidural analgesia were eligible and randomized (1:1) to either receive the trial of prophylactic manual rotation of POP position (intervention group) or no trial of prophylactic manual rotation (standard group). The primary outcome was operative deliveries (instrumental and/or cesarean deliveries).

**RESULTS:** From December 2015 to December 2019, 257 women were randomized: 126 assigned to the intervention group and 131 to the standard group. The groups did not differ in baseline characteristics. Operative delivery was significantly less frequent in the intervention (I) group compared to the standard (S) group (29.4 vs. 41.2%,

p=.047, Differential (I-S) [95% confidence interval, CI] = -11.8 [-15.7;-7.9]; relative risk [95% CI] = 0.71 [0.51-1.00]). Women in the intervention group were more likely to have a significant shorter second stage of labor and have a neonate with a significant higher Apgar score at 5 minutes. There were no differences in other secondary outcomes.

**CONCLUSION:** Trial of prophylactic manual rotation of persistent POP positions during the early second stage of labor is associated with a decrease risk of operative delivery.

Figure. Randomization and follow-up of study participants



### 4 Placental Hofbauer Cells As a Proxy Cell Type for Fetal Brain Microglia

Rose De Guzman<sup>1</sup>, Rebecca Batorsky<sup>2</sup>, Sezen Kislal<sup>3</sup>, Sara Brigida<sup>3</sup>, Staci Bilbo<sup>3</sup>, Donna K. Slonim<sup>2</sup>, Andrea G. Edlow<sup>4</sup>

<sup>1</sup>Massachusetts General Hospital, Newton, MA, <sup>2</sup>Tufts University, Boston, MA, <sup>3</sup>Massachusetts General Hospital, Boston, MA, <sup>4</sup>Massachusetts General Hospital, Department of Obstetrics and Gynecology, Boston, MA

**OBJECTIVE:** Both placental and brain immune activation have been reported in maternal obesity-exposed (MATOB) offspring, and MATOB offspring have an increased risk for autism spectrum disorder, ADHD, and cognitive deficits. Microglia, the resident brain immune cells, have been implicated in these morbidities. Hofbauer cells (HBCs), resident fetal placental macrophages, and microglia, resident brain macrophages, share a common embryonic origin in the fetal yolk sac in mice and humans. Because direct evaluation of microglial function in a living human fetus or neonate is impossible, we sought to determine whether HBCs could serve as a more