

EP 16.124 — Maternal and Perinatal Outcomes in Women Aged ≥50 Years: Independent Risks in a Large Singleton Cohort

Pilar Prats · Raquel Mula · Nimet Ozbey · Sandra García Martínez · Marta Claramonte · Alberto Rodríguez-Melcon · Bernat Serra
Obstetrics, Gynecology and Reproductive Medicine Department. Hospital Universitari Dexeus



BACKGROUND

Pregnancy at age ≥50 years is increasingly enabled by assisted reproductive technology, particularly oocyte donation. The independent contribution of maternal age remains uncertain because ART and maternal comorbidities are closely intertwined.

OBJECTIVES

To determine whether maternal age ≥50 years is independently associated with maternal (MCAO) and perinatal (PCAO) composite adverse outcomes after adjustment for ART and obstetric confounders; and to describe the ≥50-year population and age-related dose–response pattern.

MATERIAL AND METHODS

- Retrospective cohort of singleton deliveries at ≥23 weeks.
- Single-centre selected cohort; ≥50 subgroup n=72.
- Exclusion criteria: multiple gestations, deliveries before 23 weeks and records with missing key variables.

45,074	72
singleton deliveries	women ≥50 years
0.2%	97.2%
of cohort	ART use (70/72)

POPULATION AGED ≥50 YEARS

Characteristic	≥50
Mean age (range)	51.2 ± 1.5 50–56
Mean BMI	24.0 ± 3.4
Nulliparous	50.0% (36)
Oocyte donation among ART	100% (70)
Chronic hypertension	2.8% (2)
Pre-gestational diabetes	0% (0)
Pre-conception menopause	25.0% (18)
Thyroid disease	16.7% (12)
Thrombophilia	5.6% (4)
Prior cesarean section	30.6% (22)

STATISTICAL ANALYSIS

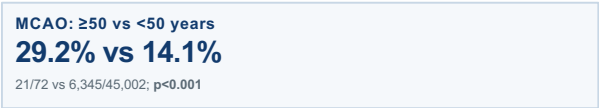
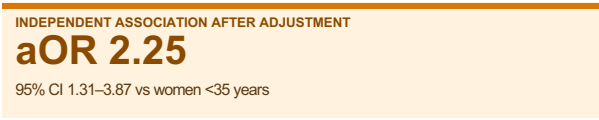
Age groups: <35 (n=22,814), 35–39 (n=16,392), 40–44 (n=5,105), 45–49 (n=691), and ≥50 years (n=72).

Comparisons: Student’s t-test for continuous variables and χ^2 test for categorical outcomes.

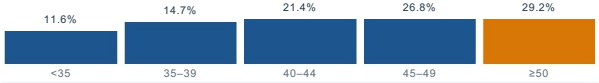
Models: logistic regression for MCAO adjusted for ART, parity, chronic hypertension, pre-gestational diabetes and BMI; PCAO used the same covariates plus fetal sex.

Composites: MCAO included gestational diabetes, gestational hypertension, preeclampsia, placenta previa, postpartum hemorrhage or maternal death, PCAO included preterm birth <37 weeks, SGA <10th percentile, NICU admission, stillbirth or early neonatal death.

RESULTS: MATERNAL COMPOSITE OUTCOME



Dose–response gradient across age categories



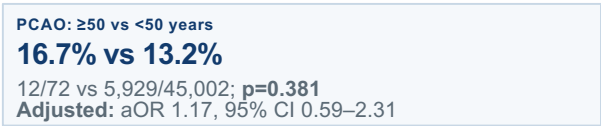
MCAO p<0.001 across age categories.

SELECTED MATERNAL OUTCOMES

Outcome	≥50	<50	p
Gestational diabetes	19.4%	7.9%	0.001
Chronic hypertension	2.8%	0.5%	0.047
Postpartum hemorrhage	5.6%	3.7%	0.347
Cesarean delivery†	87.5%	30.9%	<0.001

†Not included in MCAO; elective cesarean 68.1% vs 15.0%.

RESULTS: PERINATAL COMPOSITE OUTCOME



Measure	≥50	<50
Gestational age	38.21 wk	39.41 wk
Birthweight	3,058 g	3,250 g
Preterm birth <37 wk	8.3%	4.0%
SGA <10th percentile	9.7%	9.4%
NICU admission	2.8%	1.1%
Stillbirth	0%	0.2%

CLINICAL INTERPRETATION

Maternal age ≥50 years was associated with maternal—not independently perinatal—composite risk. The maternal gradient persisted after adjustment for ART and obstetric confounders.

CONCLUSIONS

Age ≥50 years independently increased MCAO odds more than two-fold, while PCAO was not independently elevated. Findings support individualized pre-conception counseling and maternal surveillance for pregnancies achieved through oocyte donation at age ≥50 years.