eSET with 1 embryo frozen	No. Live births	Unadjusted live birth rate (%)	DET with 0 embryos frozen	No. Live births	Unadjusted live birth rate (%)	Relative Risk (RR) (95% CI)	Adjusted relative risk (aRR) (95% CI)
<35 (n=769 transfers)	337	43.8	<35 (n=9007 transfers)	3708	41.2	1.06 (0.97-1.17)	0.95 (0.87-1.03)
35-37 (n=258)	82	31.8	35-37 (n=4637)	1593	34.3	0.92 (0.77-1.10)	0.81 (0.68-0.96)
eSET with 2 embryos frozen	No. Live births	Unadjusted live birth rate (%)	DET with 1 embryo frozen	No. Live births	Unadjusted live birth rate (%)	RR (95% CI)	aRR (95% CI)
<35 (n=963)	491	51.0	<35 (n=2318)	1175	50.7	1.00 (0.93-1.08)	0.93 (0.86-1.00)
35-37 (n=302)	122	40.4	35-37 (n=1168)	544	46.6	0.87 (0.72-1.04)	0.81 (0.67-0.97)
eSET with 3 or more embryos frozen	No. Live births	Unadjusted live birth rate (%)	DET with 2 or more embryos frozen	No. Live births	Unadjusted live birth rate (%)	RR (95% CI)	aRR (95% CI)
<35 (n=4468)	2349	52.6	<35 (n=9961)	5664	56.7	0.92 (0.89-0.96)	0.88 (0.84-0.91)
35-37 (n=987)	449	45.5	35-37 (n=3774)	1940	51.4	0.88 (0.81-0.96)	0.83 (0.76-0.91)

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LIVE BIRTH AND MULTIPLE BIRTH RATES IN WOMEN UNDER AGE 38 BY ELECTIVE SINGLE EMBRYO TRANSFER (ESET) VERSUS DOUBLE EMBRYO TRANSFER (DET) IN UNITED STATES IVF CLINICS. A. Mancuso,[a] S. Boulet,[b] E. H. Duran,[a] E. M. Munch,[a] D. M. Kissin,[b] B. J. Van Voorhis.[a] [a]Obstetrics and Gynecology, University of Iowa Hospitals and Clinics, Iowa City, IA; [b]Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, GA.

OBJECTIVE: To compare live birth and multiple birth rates for cycles using eSET versus DET among women under age 38.

DESIGN: Retrospective cohort study.

MATERIALS AND METHODS: Data were collected on all autologous fresh IVF cycles performed in 2013 and reported to the National Assisted Reproductive Technology Surveillance System (NASS). Cycles using preimplantation genetic diagnosis or screening were excluded. Analysis was stratified based on total number (2, 3, 4+) of embryos available, defined as number of embryos transferred plus number cryopreserved. Rates of live birth per embryo transfer and multiple birth per delivery were calculated for the eSET and DET groups. Analysis was further stratified by patient age (<35, 35-37). Models were adjusted for day of transfer, infertility diagnosis, parity, prior ART cycles, number of oocytes retrieved, assisted hatching, and ICSI. Adjusted and unadjusted risk ratios for the association between eSET and outcomes were calculated using log-binomial models.

RESULTS: There were 6,200 eSET cycles and 21,286 DET cycles analyzed for patient age <35 and 1,547 eSET cycles and 9,579 DET cycles for patient age 35-37. There was a marked reduction in multiple births with eSET compared to DET (1.7% versus 39.4% for age <35 and 1.7% versus 32.0% for age 35-37). Adjusted live birth rates were slightly higher with DET for age 35-37 and for age <35 with four or more embryos available for transfer but were similar for age <35 with two or three embryos available for transfer (Table).

CONCLUSIONS: Although adjusted live birth rates tended to favor DET for patients aged 35-37, for patients <35 this was only seen when 4 or more embryos were available to transfer. Multiple birth rates were much lower with eSET for both age groups, supporting the recommendation for younger patients to transfer one embryo at a time.

O-256 Wednesday, October 19, 2016 12:00 PM

RISK OF MATERNAL MORBIDITY IN IVF AND NON-IVF BIRTHS: A US STUDY IN FIVE STATES. B. Luke,[a] M. B. Brown,[b] L. G. Spector.[c] [a]Obstetrics, Gynecology, and Reproductive Biology, Michigan State University, East Lansing, MI; [b]Biostatistics, University of Michigan, Ann Arbor, MI; [c]Pediatrics, University of Minnesota, Minneapolis, MN.

OBJECTIVE: To evaluate the risk of maternal morbidity due to IVF, plurality, and maternal age.

DESIGN: Longitudinal case-control cohort study

MATERIALS AND METHODS: IVF cycles from the Society for Assisted Reproductive Technology Clinic Online Reporting System were linked to birth certificates of singletons and twins in CA (2004-09), and PA, MI, NY, TX (2004-10) (IVF births); a 10:1 sample of non-IVF births were controls. Maternal morbidity was identified from six items on the birth certificate (see below). Using logistic regression, the risk of each morbidity was modeled by maternal age, IVF versus non-IVF conception, and plurality (twin versus singleton), separately for each mode of delivery. Parity was included in the model for perineal laceration.

RESULTS: The study population included 53,053 IVF births (37,193 singletons and 15,860 twin births) and 576,880 non-IVF control births (567,856 singletons and 9,024 twin births). Regardless of mode of delivery, older maternal age was associated with an increased risk of unplanned hysterectomy and unplanned operations; twin pregnancy with blood transfusion, admission to intensive care, and unplanned operations; and IVF pregnancy with blood transfusion. Women with vaginal IVF births were at increased risk for unplanned hysterectomy, unplanned operations, and 3rd or 4th degree perineal lacerations. Cesarean twin births were at increased risk of unplanned hysterectomy.

CONCLUSIONS: The risks of maternal morbidity at delivery are increased with IVF, twin pregnancy, and older maternal age.

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Risk of Maternal Morbidity (AOR, 95% CI)

Morbidity	%	Mode of Delivery	Maternal Age >=40 vs 18-29 years	IVF Pregnancy	Twin Pregnancy
Blood Transfusion	0.15	Vaginal	1.00 (0.67, 1.50)	2.05 (1.53, 2.75)	3.44 (2.34, 5.03)
	0.40	Cesarean	1.13 (0.89, 1.45)	1.43 (1.16, 1.75)	1.92 (1.56, 2.35)
Ruptured Uterus	0.02	Vaginal	1.29 (0.44, 3.78)	2.17 (0.98, 4.79)	2.22 (0.64, 7.69)
	0.06	Cesarean	1.56 (0.83, 2.92)	1.15 (0.64, 2.06)	1.18 (0.61, 2.22)
Unplanned Hysterectomy	0.01	Vaginal	7.17 (2.71, 18.97)	2.43 (1.11, 5.33)	0.76 (0.10, 5.81)
	0.08	Cesarean	4.33 (2.70, 6.96)	1.20 (0.78, 1.84)	1.64 (1.04, 2.60)
Admission to Intensive Care	0.06	Vaginal	1.16 (0.60, 2.23)	0.92 (0.49, 1.71)	3.98 (2.02, 7.87)
	0.30	Cesarean	1.27 (0.94, 1.72)	0.99 (0.75, 1.30)	1.54 (1.16, 2.03)
Unplanned Operation	0.18	Vaginal	1.59 (1.12, 2.25)	1.56 (1.16, 2.10)	2.50 (1.65, 3.84)
	0.17	Cesarean	1.53 (1.01, 2.31)	0.89 (0.62, 1.28)	1.69 (1.18, 2.42)
3rd or 4th degree Perineal Laceration	1.40	Vaginal	1.03 (0.88, 1.21)	1.69 (1.51, 1.88)	0.67 (0.49, 0.91)