

Supplementary Table S2. Detailed Results of Subgroup and Sensitivity Analyses

S2-1. Detailed Results of Subgroup Analyses (Intralipid versus No Treatment)

Outcome	Stratification criterion	Subgroup	Studies (k)	N	RR [95% CI] (Random, M-H)	I ²	Notes (studies)
RCT							
Clinical pregnancy rate	Overall	–	2	159	2.31 [1.42, 3.74]	0%	–
	Patient population	RIF	1	80	3.00 [1.06, 8.52]	–	Peivandi 2022
		Mix (RIF & MR)	1	79	2.15 [1.25, 3.70]	–	Bespalova 2022
NRCS							
Live birth rate	Overall	–	3	21,320	2.10 [0.89, 4.96]	63%	–
	Patient population	RIF	1	21,179	1.32 [1.24, 1.41]	–	Khairy 2024
		Mix (RIF & RPL)	2	141	3.60 [1.51, 8.57]	0%	Placais 2020; Mrosk 2024
	Sample size	≤100	1	62	3.32 [1.33, 8.28]	–	Placais 2020
		>100	2	21,258	1.79 [0.49, 6.47]	35%	Khairy 2024; Mrosk 2024
Clinical pregnancy rate	Overall	–	4	21,330	1.84 [0.95, 3.59]	57%	–
	Patient population	RIF	2	21,219	3.15 [0.35, 28.19]	81%	Khairy 2024; Kolanska 2021
		Mix (RIF & RPL)	2	111	1.83 [0.75, 4.46]	16%	Placais 2020; Mrosk 2024
	Sample size	≤100	2	72	3.66 [0.37, 36.69]	80%	Kolanska 2021; Placais 2020
		>100	2	21,258	1.53 [0.64, 3.65]	33%	Mrosk 2024; Khairy 2024

Shaded rows indicate the overall (main) pooled estimate for the design and outcome; unshaded rows below each shaded row present the corresponding subgroup analyses stratified by patient population or sample size. RCT: randomized controlled trial; NRCS: non-randomized comparative study; RIF: recurrent implantation failure; MR: miscarriage; M-H: Mantel-Haenszel; RR: risk ratio; CI: confidence interval.

S2-2. Detailed Results of Sensitivity Analyses (Intralipid versus No Treatment)

Criterion	Outcome	Studies (k)	N	Pooled estimate [95% CI]	I ²	Notes (studies)
NRCS						
Studies using NK cell testing as the patient selection criterion	Live birth rate	2	21,258	RR 1.79 [0.49, 6.47]	35%	Khairy 2024§; Mrosk 2024†
	Clinical pregnancy rate	2	21,258	RR 1.53 [0.64, 3.65]	33%	Khairy 2024§; Mrosk 2024†
Studies rated as low risk of bias	Clinical pregnancy rate	1	40	RR 12.22 [1.72, 86.68]	–	Kolanska 2021 (RIF population)
Studies reporting adjusted estimates	Live birth rate	1	21,179	aOR 1.10 [0.92, 1.32]	–	Khairy 2024*
	Clinical pregnancy rate	1	60	aOR 36.04 [2.26, 575.18]	–	Kolanska 2021&

RCT: randomized controlled trial; NRCS: non-randomized comparative study; RIF: recurrent implantation failure; RR: risk ratio; aOR: adjusted odds ratio; CI: confidence interval.

§ Peripheral blood NK cell abnormality (12–15% of total lymphocyte count).

† Confirmed elevation of uterine NK cells (≥ 300 cells/mm²).

* Adjusted for: maternal age, partner age, duration of infertility, BMI, AMH, FSH, AFC, number of previous ART cycles, number of previous miscarriages, frozen embryo replacement, immunomodulatory therapy overall as a single predictor, and individual immunotherapy (intralipid).

& Adjusted for: age, number of embryos previously transferred, obesity (BMI ≥ 35 kg/m²), and individual treatment.