

Supplementary Material. The sensitivity analysis.

	The excluded study	RR (95% CI)
live birth rate		
all		
	Scaruffi P,2022	1.08(0.97, 1.21)
	Miller D, 2019	1.39(0.91, 2.12)
	Liu Y, 2019	1.24(0.93, 1.67)
	Majumdar 2013	1.30(0.90, 1.85)
	Parmegiani L, 2010	1.29(0.91, 1.83)
	Balaban B,2003	1.35(0.95, 1.93)
RCT		
	Miller D, 2019	1.11(0.83, 1.49)
	Liu Y, 2019	1.08(0.97, 1.20)
	Majumdar 2013	1.08(0.97, 1.20)
	Parmegiani L, 2010	1.08(0.97, 1.21)
	Balaban B,2003	1.09(0.98, 1.22)
clinical pregnancy rate		
all		
	Scaruffi P,2022	1.12(0.97, 1.30)
	Novoselsky Persky M,2021	1.22(1.02, 1.46)
	Rezaei M,2021	1.15(0.98, 1.36)
	Miller D, 2019	1.29(1.04,1.60)
	Erberelli RF, 2017	1.17(0.99, 1.37)
	Majumdar 2013	1.24(1.02, 1.50)
	Parmegiani L,2010	1.17(0.98, 1.40)
	Parmegiani L,2010	1.22(1.01, 1.47)
	Marc JG Van den Berg , 2009	1.23(1.03, 1.47)
	Balaban B,2003	1.24(1.03, 1.50)
	Troya J, 2015	1.19(0.99, 1.42)
	WorriLOW WC,2013	1.28(1.03, 1.60)
RCT		
	Novoselsky Persky M,2021	1.00(0.92, 1.09)
	Miller D, 2019	1.04(0.90, 1.20)
	Majumdar 2013	1.00(0.92,1.09)
	Parmegiani L,2010	0.99(0.92, 1.08)
	Marc JG Van den Berg,2009	1.00(0.92, 1.09)
	Balaban B,2003	0.99(0.91, 1.08)
	Troya J, 2015	0.99(0.91, 1.08)
	WorriLOW WC,2013	1.00(0.92, 1.10)
cohort study		
	Scaruffi P,2022	1.69(1.22, 2.35)

	Rezaei M,2021	1.83(1.34, 2.51)
	Erberelli RF, 2017	1.80(1.34, 2.44)
	Parmegiani L,2010	2.37(1.58, 3.54)
spontaneous abortion rate		
all		
	Scaruffi P,2022	0.67(0.51, 0.88)
	Miller D, 2019	0.72(0.45, 1.17)
	Erberelli RF, 2017	0.64(0.49, 0.84)
	Majumdar 2013	0.66(0.50, 0.86)
	Parmegiani L,2010	0.62(0.47, 0.82)
	Parmegiani L, 2010	0.63(0.48, 0.83)
	Marc JG Van den Berg,2009	0.65(0.50, 0.84)
	Balaban B,2003	0.64(0.49, 0.84)
	Troya J, 2015	0.65(0.50, 0.84)
RCT		
	Miller D, 2019	0.72(0.34, 1.52)
	Majumdar 2013	0.64(0.48, 0.87)
	Parmegiani L, 2010	0.62(0.46, 0.83)
	Marc JG Van den Berg,2009	0.63(0.47, 0.85)
	Balaban B,2003	0.63(0.47, 0.84)
	Troya J, 2015	0.64(0.48, 0.85)
cohort study		
	Scaruffi P,2022	1.05(0.47, 2.34)
	Erberelli RF, 2017	0.69(0.32, 1.47)
	Parmegiani L,2010	0.50(0.23, 1.08)
biochemical pregnancy rate		
all		
	Novoselsky Persky M,2021	1.21(0.95, 1.53)
	Rezaei M,2021	1.10(0.88, 1.38)
	Miller D, 2019	1.26(0.93, 1.69)
	Erberelli RF, 2017	1.03(0.93, 1.14)
	Majumdar 2013	1.23(0.91, 1.65)
	Marc JG Van den Berg,2009	1.19(0.93, 1.52)
	Troya J, 2015	1.15(0.88, 1.50)
RCT		
	Novoselsky Persky M,2021	1.01(0.92, 1.10)
	Miller D, 2019	1.04(0.81, 1.35)
	Majumdar 2013	1.00(0.92, 1.10)
	Marc JG Van den Berg,2009	1.00(0.92, 1.10)
	Troya J, 2015	1.00(0.91, 1.09)
implantation rate		

all		
	Scaruffi P,2022	1.24(0.99, 1.56)
	Majumdar 2013	1.52(0.97, 2.38)
	Parmegiani L,2010	1.39(0.89, 2.17)
	Parmegiani L, 2010	1.50(0.97, 2.32)
	Balaban B,2003	1.59(1.08, 2.32)
RCT		
	Majumdar 2013	1.08(0.76, 1.52)
	Parmegiani L, 2010	1.07(0.79, 1.46)
	Balaban B,2003	1.19(0.87, 1.63)
fertilization rate		
all		
	Kim SJ, 2020	1.03(0.99, 1.07)
	Liu Y, 2019	1.04(0.998, 1.09)
	Erberelli RF, 2017	1.04(0.997, 1.09)
	Majumdar 2013	1.05(1.01, 1.10)
	Choe SA,2012	1.06(1.01, 1.10)
	Parmegiani L,2010	1.04(0.99, 1.09)
	Parmegiani L, 2010	1.04(0.99, 1.09)
	Marc JG Van den Berg (RCT),2009	1.04(0.998, 1.09)
	Marc JG Van den Berg(cohort study),2009	1.05(1.004, 1.10)
	Worilow WC,2013	1.06(1.01, 1.10)
	Ciray HN,2008	1.05(1.01, 1.10)
RCT		
	Liu Y, 2019	1.01(0.97, 1.05)
	Majumdar 2013	1.03(0.97, 1.08)
	Choe SA,2012	1.03(0.98, 1.07)
	Parmegiani L, 2010	1.00(0.96, 1.05)
	Marc JG Van den Berg,2009	1.01(0.96, 1.06)
	Worilow WC,2013	1.03(0.96, 1.09)
	Ciray HN,2008	1.02(0.98, 1.07)
cohort study		
	Kim SJ, 2020	1.06(1.01, 1.11)
	Erberelli RF, 2017	1.09(1.05, 1.14)
	Parmegiani L,2010	1.11(1.05, 1.17)
	Marc JG Van den Berg,2009	1.12(1.07, 1.16)
cleavage rate		
all		
	Kim SJ, 2020	0.97(0.93, 1.01)
	Erberelli RF, 2017	0.97(0.93, 0.999)
	Parmegiani L,2010	0.98(0.97, 1.003)

	Parmegiani L, 2010	0.97(0.94, 1.01)
	Balaban B,2003	0.96(0.93, 0.99)
	Ciray HN,2008	0.97(0.94, 1.001)
RCT		
	Parmegiani L, 2010	0.99(0.91, 1.08)
	Balaban B,2003	0.96(0.91,1.000)
	Ciray HN,2008	0.98(0.94, 1.03)
cohort study		
	Kim SJ, 2020	0.96(0.89, 1.03)
	Erberelli RF, 2017	0.95(0.90, 1.01)
	Parmegiani L,2010	1.00 (0.96, 1.001)
good-quality embryo rate		
all		
	Kim SJ, 2020	1.13(0.93, 1.36)
	Liu Y, 2019	1.24(0.99,1.55)
	Majumdar 2013	1.25(0.98, 1.58)
	Choe SA,2012	1.21(0.98, 1.50)
	Parmegiani L,2010	1.14(0.92, 1.41)
	Parmegiani L,2010	1.15(0.92, 1.43)
	Balaban B,2003	1.24(0.98, 1.57)
RCT		
	Liu Y, 2019	1.07(0.89, 1.28)
	Majumdar 2013	1.09(0.87, 1.37)
	Choe SA,2012	1.05(0.89, 1.24)
	Parmegiani L, 2010	0.98(0.90, 1.07)
	Balaban B,2003	1.07(0.83, 1.37)