

RESULTS OF ART TREATMENTS

1985 – 2021

S.I.S.Me.R. – Bologna and Satellite Centers

TABLE I - Cumulative data S.I.S.Me.R. Centers

<i>Years of activity</i>	1985-1996	1997-1998	1999-2003	2004-2008	2009-2012	2013-2015	2016-2018	2019-2021
Initiated cycles	4553	1158	4351	3580	3112	1731	1221	886
Maternal age (average±SD)	34,3±5	35,1±5	35,4±6	37,2±5	37,4±6	37,5±7	37,2±4,8	37,8±4,6
Maximum number of embryos transferred	4-5	2-3	2	3	2 - (3)	1-2	2	4*
Embryo transfers	2616	715	2530	2439	2039	999	510	297
Clinical pregnancy rate	20%	37%	32%	25,8% (629/2439)	26,1% (533/2039)	28% (280/999)	17,3% (88/510)	25,3% (75/297)
Implantation rate	9%	23%	21%	16%	16%	16%	12,4%	17,6%
Miscarriage rate	25%	11%	15%	18%	18%	20%	13,6%	22.7%

* Only in one cycle



TABLE 2 - IVF S.I.S.Me.R. Centers (1997 – 2021)

	1997-2003	2004-2008	2009-2012	2013-2015	2016-2018	2019-2021
Initiated cycles	2164	388	772	238	206	152
Cancelled cycles	451	77	223	36	51	14
Oocyte retrievals	1713	311	549	202	155	138
Embryo transfers	1261	277	457	162	112	72
Clinical pregnancy rate	440 (35%)	93 (33.5%)	134 (29.3%)	58 (35.8%)	28 (25%)	19 (26,4%)
Miscarriages	39	9	17	12	2	4
Ectopic pregnancies	14	0	0	1	0	2

TABLE 3 - ICSI S.I.S.Me.R. Centers (1997 – 2021)

	1997-2003	2004-2008	2009-2012	2013-2015	2016-2018	2019-2021
Initiated cycles	2919	2990	2212	1432	944	703
Cancelled cycles	553	646	365	280	170	90
Oocyte retrievals	2366	2344	1847	1152	774	613
Embryo transfers	1731	2013	1502	802	367	213
Clinical pregnancy rate	549 (32%)	497 (24.7%)	391 (25.4%)	213 (26.6%)	54 (14.7%)	54 (25.4%)
Miscarriages	68	105	77	43	9	10
Ectopic pregnancies	15	15	8	6	4	1

TAVOLA 4 - MESA/TESE/STW S.I.S.Me.R. Centers (1997 – 2021)

	1997-2003	2004-2008	2009-2012	2013-2015	2016-2018	2019-2021
Initiated cycles	418	202	128	61	71	31
Cancelled cycles	47	33	11	1	3	3
Oocyte retrievals	371	169	117	60	68	28
Embryo transfers	252	149	79	35	31	12
Clinical pregnancy rate	71 (28%)	35 (23.5%)	18 (22.8%)	9 (25.7%)	6 (19,4%)	2 (16,7%)
Miscarriages	2	3	2	1	0	0
Ectopic pregnancies	1	0	0	0	0	0

TABLE 5 - Age factor S.I.S.Me.R. Centers (2002 – 2021)

Age (Years)	≤ 29 y.o.	30-34 y.o.	35-37 y.o.	38-40 y.o.	41-43 y.o.	≥44 y.o
Initiate cycles	800	2994	2662	2570	1822	911
Cancelled cycles	97	376	455	434	381	356
Cancellation rate	12.1%	12.6%	17.1%	16,9%	20,9%	39.1%
Oocyte retrievals	703	2618	2207	2136	1441	555
Average no. collected oocytes ± SD	9.0±5.4	8.3±4.8	7,7±4.8	7.1± 4.6	6.3±4.8	4.6± 3.1
Embryo transfers	509	1977	1681	1575	1065	311
Clinical pregnancies	198	679	522	366	147	14
Clinical pregnancy rate	38.9%	34.3%	31,1%	23.2%	13.8%	4.5%
Miscarriages	20	69	65	83	59	5
Miscarriage rate	10,1%	10,2%	12,5%	22,7%	40,1%	35,7%
Ectopic pregnancies	6	18	16	14	4	0
Implantation rate	26,1%	21,9%	19,1%	12,9%	6,7%	2,3%

TABLE 6 - Transfer of cryopreserved embryos/zygotes/oocytes (all cycles)

	<i>EMBRYOS 1985-1995</i>	<i>EMBRYOS/ZYGOTES 1996-2021</i>	<i>BLASTOCYSTS 2010-2021</i>	<i>OOCYTES 2004-2021</i>
Thawing cycles	302	2784	1434	1047
Embryo transfers	228	2385	1369	837
Clinical pregnancies	17 (7,5%)	635 (26,6%)	459 (33,5%)	143 (17,1%)
Miscarriages	8	136	92	37
Ectopic pregnancies	0	7	8	5

TABLE 7 - Transfer of vitrified oocytes and blastocysts

	Vitrification	
	<i>Oocytes 2004-2021</i>	<i>Blastocysts 2010 - 2021</i>
Thawing cycles	191	1483
Survival rate	810/1131 71.6%	1593/1925 82.8%
Embryo transfers	129	1425
Clinical pregnancies	35/137 25,5%	461/1425 32,4%
Miscarriages	10	93
Ectopic pregnancies	1	8

TABLE 8 - Transfer of cryopreserved zygote/oocytes/blastocysts for ovarian hyperstimulation syndrome risk (OHSS)

	<i>1996-2015 (zygotes)</i>	<i>2004-2014 (oocytes)</i>	<i>2010-2021 (blastocysts)</i>
Cryopreservation procedures for OHSS risk	731	224	299
Thawing cycles	1271	338	472
Patients who underwent at least one thawing cycle	699	209	279
Embryo transfers	1151	294	466
Clinical pregnancies	367	56	149
Clinical pregnancy rate per transfer	32 %	19 %	32.0%
Clinical pregnancy rate per patient	53 %	27 %	53.4%
Miscarriages	72	15	27
Ectopic pregnancies	0	0	3

TABLE 9 - IVF Lite Programme – Results (Cumulative data 2008-2019)

Couples admitted to the programme	551
Average maternal age	33.6±3.1
Couples whose cycles were cancelled for poor ovarian response	142
Couples who completed the programme	391
Oocyte retrievals	653
Average no. collected oocytes ± SD	6,0 ± 2.7
Embryo transfers (fresh or cryopreserved embryos)	818
Full term pregnancies	254/391 (65% per patient)

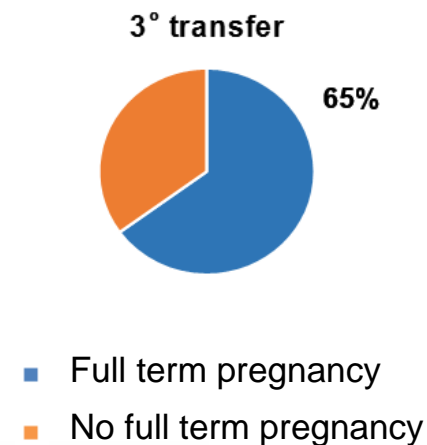
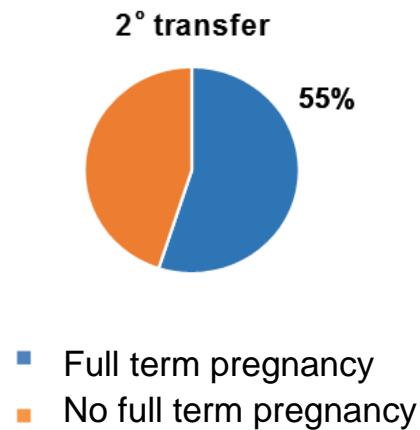
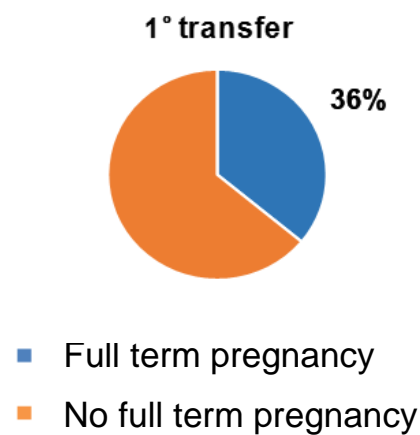


TABLE 10 - Intrauterine inseminations

	Own sperm (2001 – 2021)	Sperm donation (2016 – 2021)
Couples	554	47
Average maternal age	36,1	34,1
Cycles performed	1179	86
Clinical pregnancies	98	11
Clinical pregnancy rate per cycle	8,3%	12,8%
Clinical pregnancy rate per couple	17,7%	23,4%
Miscarriages	22	2
Ectopic pregnancies	6	0

TABLE 10 B - Sperm Donation (IUI and IVF/ICSI)

	IUI 2016-2019	IVF/ICSI 2016-2019
Couples	47	49
Average maternal age	34,1	35,5
Cycles performed	86	61
Clinical pregnancies	11	12
Clinical pregnancy rate per cycle	12,8%	19,7%
Clinical pregnancy rate per couple	23,4%	24,5%
Miscarriages	2	2
Ectopic pregnancies	0	0

TABLE I I- Cumulative data according to technique performed

	IVF	ICSI	MESA/ TESE	Cryo- preserved embryos /zygotes	Cryo- preserved oocytes	Cryo- preserved blastocysts	1° PB Biopsy	1°+2° PB Biopsy	Embryo biopsy	PBs + Embryo biopsy	Oocyte donation	GIFT/ TET	IUI
Cycles	5569	9483	934	3034	1053	1360	1191	313	2056	138	1435	628	1244
Oocyte retrievals	4323	7699	848	-	-	-	1076	298	1759	116	-	525	-
Embryo transfers	3583	5839	587	2613	839	1303	933	192	986	43	1316	510	-
Clinical pregnancies	1007	1499	132	652	143	432	188	29	299	12	313	162	108
Miscarriages	170	271	12	144	37	83	42	6	52	2	65	31	21
Ectopic pregnancies	19	40	1	10	5	8	7	1	8	0	4	4	6
Heterotopic pregnancies	3	1	0	0	0	0	0	0	0	0	1	0	0
Abortions/ Stillbirths	6	13	2	5	0	0	4	0	2	1	3	0	0

TABLE 12- Pregnancies and babies born (1985 - 2020)

Clinical pregnancies	4738
Lost to follow-up	48
Miscarriages	957 (20,1 %)
Ectopic pregnancies	97 (2 %)
Prenatal diagnosis procedures	1185 (32,4 %)
Abortions + stillbirths	39 (0,8 %)
Deliveries	3597
Singletons	2926 (81,3 %)
Twins	604 (17 %)
Triplets	64 (1,8 %)
Quadruplets	3 (0,08 %)
Babies born	4338
Malformations detected	149 (3,4 %)
Malformed babies	107 (2,4 %)