

Online Resource 1. Characteristics of infertile couples with and without chromosomal polymorphisms

	group 1	group 2	group 3
Data on patients (mean ± SD)			
Male age	32.95±5.63	31.40±5.14	31.95±4.84
Female age	30.81±5.09	31.66±4.91	31.76±5.38
Female body mass index	22.27±3.65	22.18±2.72	22.81±3.02
Data on disease factors			
Obstructive factors rate (n) %	(19/348)6.03	(7/99)7.07	(58/835) 6.95%
OAT <sup>a</sup> rate (n) %	(116/348)33.3	(37/99)37.4	(260/835)31.3%
Ovarian diseases rate (n) %	(43/348)12.4	(16/99)16.2	(89/835)10.7
UPF <sup>b</sup> diseases rate (n) %	(257/348)73.9	(76/99)76.7	(639/835)76.5
Data on sperm (one semen sample per patient)			
Sperm concentration (million/ml)	86.29±39.66	89.36±46.90	88.3±45.26
Sperm progressive motility <sup>c</sup> (%)	52.82±15.92	56.96±13.89	57.23±15.26
Sperm normal morphology rate <sup>d</sup> (%)	NS <sup>e</sup>	NS	NS
Data on hormones (mean ± SD)			
Male basal FSH (mIU/L)	9.34±11.63	8.40±10.21	9.78 ± 6.39
Male basal LH (mIU/L)	6.68 ±7.33	7.56 ±6.99	6.46± 6.23
Male basal testosterone (ng/dl)	48.52 ± 69.03	39.75 ± 61.98	44.57 ± 59.28
Male basal oestradiol (pg/ml)	37.89 ± 11.10	36.45 ±9.95	33.66 ± 12.36
Male basal prolactin (ng/ml)	279.43 ± 111.80	323.22 ± 213.76	256.52 ± 189.36
Female basal FSH (mIU/L)	6.67±2.31	6.51±1.94	6.93±2.62
Female basal LH (mIU/L)	5.19±3.78	5.23±3.53	4.46±1.84
Female basal testosterone (ng/dl)	0.82 ± 0.46	0.89 ± 0.35	0.94 ± 0.34
Female basal oestradiol (pg/ml)	43.26 ± 11.56	50.51 ± 17.50	46.37 ± 17.31
Female basal prolactin (ng/ml)	289.39 ± 109.62	313.09 ± 117.35	326.79 ± 129.72
Female basal progesterone (ng/ml)	0.91 ± 0.17	1.12 ± 0.32	1.03 ± 0.23

Data on the HCG day			
Dosage of Gn (ml)	0.86±0.22	0.79±0.16	0.85±0.25
Days of Gn	13.35±1.57	14.35±1.67	12.83±1.17
E2 level on HCG day(pg/ml)	5090±2369	4740±2200	5563±2508
P level on HCG day(ng/ml)	2.00±0.57	1.90±0.43	2.00±0.60
E2/P on HCG day(pg/ml)	2.69±1.44	2.59±1.32	2.96±1.55
Thickness of endometrium on HCG day (cm)	1.10±0.21	1.05±0.19	1.09±0.22
Numbers of oocytes obtained	14.81±8.461	13.92±7.701	14.28±7.700
Numbers of embryos obtained	8.56±3.55	6.18±2.96	9.23±3.78
Numbers of high-quality embryos obtained	3.46±1.96	3.96±1.88	5.25±2.23
Numbers of embryos transferred	2.01±0.45	1.97±0.39	2.05±0.41
Numbers of high-quality embryos transferred	1.69±0.67	0.92±0.72	1.89±0.68

a: OAT = oligozoospermia, asthenospermia, teratozoospermia; b: UPF = uterine, pelviccavity, fallopian tube; c: Progressive motility (WHO4, grades a and b); d: Normal morphology rate of patients before May 2014 was standardized by WHO4. Normal morphology rate (WHO4 & WHO5) of patients after May 2014 was standardized by WHO5. Because of the difference of standardization between WHO4 and WHO5, the data was not shown; e: NS = not statistically significant.

#### Online Resource 2. Frequency of chromosomal polymorphism variation

Karyotypes	No. of males with heteromorphism	No. of females with heteromorphism
Total	348	99
autosomal qh+	78	68
1qh+	45	35
9qh+	26	26
16qh+	7	7
inv(inv(Y) not included)	17	17
inv(1)	0	3

inv(9)	17	14
Chromosome variation in D/G genomes	19	14
13ps+	2	1
14ps+	1	1
15ps+	1	2
21ps+	7	3
22ps+	8	7
Y chromosome variation	234	/
Yqh+	211	/
Yqh-	22	/
inv(Y)	1	/