Correction to: Does timing in ICSI cycle affect oocyte quality and reproductive outcomes? A prospective study

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In the original article published, the values given in the variables are incorrect. The correct values are given in the Tables 1, 2, 3 below. The original article has been corrected

The original article can be found online at <https://doi.org/10.1007/s00404-020-05555-w>.

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Table 1 Demographic and ICSI cycle characteristics of patients

Variable	HCG-OPU ≤ 36 h ($n=264$)				HCG-OPU > 36 h ($n=349$)				<i>P</i> value
	OPU-DN ≤ 2 h ($n=141$)		OPU-DN > 2 h ($n=123$)		OPU-DN ≤ 2 h ($n=180$)		OPU-DN > 2 h ($n=169$)		
	DN-ICSI ≤ 2 h ($n=101$)	DN-ICSI > 2 h ($n=40$)	DN-ICSI ≤ 2 h ($n=75$)	DN-ICSI > 2 h ($n=48$)	DN-ICSI ≤ 2 h ($n=119$)	DN-ICSI > 2 h ($n=61$)	DN-ICSI ≤ 2 h ($n=104$)	DN-ICSI > 2 h ($n=65$)	
hCG-OPU interval (h), mean $\pm$ SD, range	35.7 $\pm$ 0.3, 35.0–36.0	35.8 $\pm$ 0.2, 35.0–36.0	35.7 $\pm$ 0.3, 35.0–36.0	35.7 $\pm$ 0.2, 35.1–36.0	36.8 $\pm$ 0.8, 36.1–41.7	36.7 $\pm$ 0.5, 36.1–38.2	36.9 $\pm$ 0.8, 36.1–40.3	36.7 $\pm$ 0.5, 36.1–38.7	
OPU-denu- dation (h), mean $\pm$ SD, range	1.5 $\pm$ 0.4, 0.5–2.0	1.4 $\pm$ 0.4, 0.6–2.0	3.2 $\pm$ 1.1, 2.1–5.8	2.9 $\pm$ 0.9, 2.1–6.0	1.3 $\pm$ 0.5, 0.2–2.0	1.4 $\pm$ 0.4, 0.2–2.0	3.4 $\pm$ 1.1, 2.1–6.0	3.2 $\pm$ 0.8, 2.1–5.5	
Denudation– ICSI (h), mean $\pm$ SD, range	1.1 $\pm$ 0.5, 0.1 –2.0	3.3 $\pm$ 1.0, 2.2–5.8	1.0 $\pm$ 0.5, 0.1–2.0	3.6 $\pm$ 1.2, 2.3–6.0	1.2 $\pm$ 0.6, 0.1–2.0	3.4 $\pm$ 1.1, 2.1–6.0	1.1 $\pm$ 0.5, 0.1–2.0	3.0 $\pm$ 0.8, 2.1–4.8	
Female age (Y)	33.6 $\pm$ 6.1	33.6 $\pm$ 6.5	31.2 $\pm$ 6.0 ^a	32.7 $\pm$ 5.8	34.5 $\pm$ 6.5 ^{ab}	34.4 $\pm$ 5.9	31.8 $\pm$ 5.8 ^b	32.3 $\pm$ 5.5	0.003
BMI (kg/m ²)	26.0 $\pm$ 4.1	25.7 $\pm$ 3.8	26.0 $\pm$ 3.3	26.2 $\pm$ 3.9	25.4 $\pm$ 4.1	24.5 $\pm$ 3.4	25.0 $\pm$ 3.9	26.7 $\pm$ 3.6	0.02
FSH (IU/mL)	6.5 $\pm$ 4.2	5.9 $\pm$ 2.9	5.8 $\pm$ 2.3	6.7 $\pm$ 4.8	6.1 $\pm$ 4.6	5.1 $\pm$ 2.5	6.3 $\pm$ 4.2	7.1 $\pm$ 7.9	0.9
AMH (ng/mL)	3.2 $\pm$ 2.9	3.8 $\pm$ 3.4	3.8 $\pm$ 3.9	3.8 $\pm$ 3.9	3.4 $\pm$ 3.4	4.7 $\pm$ 4.7	3.7 $\pm$ 4.1	4.5 $\pm$ 4.0	0.3
Primary infertil- ity (<i>n</i>)	74 (73.3)	36 (90.0)	62 (82.7)	42 (87.5)	90 (75.6)	49 (80.3)	88 (84.6)	56 (86.1)	0.1
Secondary infertility (<i>n</i>)	27 (26.7)	4 (10.0)	13 (17.3)	6 (12.5)	29 (24.4)	12 (19.7)	16 (15.4)	9 (13.9)	
Infertility dura- tion (year)	5.3 $\pm$ 4.6	7.2 $\pm$ 6.7	4.8 $\pm$ 3.7	4.6 $\pm$ 3.6	5.6 $\pm$ 4.7	5.9 $\pm$ 4.7	5.3 $\pm$ 4.8	5.2 $\pm$ 4.3	0.6
No. of previous ICSI cycles									
0	64 (63.4)	28 (70.0)	52 (69.3)	30 (62.5)	74 (62.1)	33 (54.1)	75 (72.1)	45 (69.2)	0.4
1	27 (26.7)	8 (20.0)	14 (18.7)	13 (27.1)	27 (22.7)	13 (21.3)	17 (16.3)	10 (15.4)	
2	8 (7.9)	2 (5.0)	7 (9.3)	5 (10.4)	14 (11.8)	10 (16.4)	6 (5.8)	6 (9.2)	
≥ 3	2 (2.0)	2 (5.0)	2 (2.7)	0 (0)	4 (3.4)	5 (8.2)	6 (5.8)	4 (6.2)	
Cause of infer- tility (<i>n</i>)									
Male factor	47 (46.5)	24 (60.0)	39 (52.0)	21 (43.7)	41 (34.4)	27 (44.3)	49 (47.1)	29 (44.6)	0.1
AMA	12 (11.9)	2 (5.0)	3 (4.0)	6 (12.5)	13 (10.9)	7 (11.5)	6 (5.8)	7 (10.8)	0.4
DOR	21 (20.8)	7 (17.5)	6 (8.0)	6 (12.5)	26 (21.8)	6 (9.8)	8 (7.7)	4 (6.1)	0.004
PCOS	25 (24.7)	11 (27.5)	16 (21.3)	16 (33.3)	20 (16.8)	14 (22.9)	22 (21.1)	18 (27.7)	0.4
Endometriosis	4 (4.0)	1 (2.5)	3 (4.0)	2 (4.2)	8 (6.7)	0 (0)	4 (3.8)	0 (0)	0.3
RIF	7 (6.9)	4 (10.0)	6 (8.0)	2 (4.2)	7 (5.9)	10 (16.4)	6 (5.8)	9 (13.8)	0.1
Uterine	7 (6.9)	1 (2.5)	5 (6.7)	2 (4.2)	12 (10.1)	4 (6.6)	6 (5.8)	6 (9.2)	0.7
Others	14 (13.9)	5 (12.5)	10 (13.3)	5 (10.4)	17 (14.3)	9 (14.7)	18 (17.3)	10 (15.4)	0.9
Stimulation protocol (<i>n</i>)									
Antagonist	97 (96.0)	37 (92.5)	71 (94.7)	45 (93.7)	110 (92.4)	56 (91.8)	97 (93.3)	63 (96.9)	0.8
Agonist	4 (4.0)	3 (7.5)	4 (5.3)	3 (6.3)	9 (7.6)	5 (8.2)	7 (6.7)	2 (3.1)	
Total dose of gonadotro- phins (IU)	2406.0 $\pm$ 1384.3	2815.6 $\pm$ 1435.2	2234.7 $\pm$ 956.7	1909.1 $\pm$ 994.1	2636.7 $\pm$ 1310.7	2581.4 $\pm$ 1548.7	2526.8 $\pm$ 1328.6	2076.9 $\pm$ 908.0	0.09
No. of embryos transferred	1.7 $\pm$ 0.5	1.7 $\pm$ 0.6	1.8 $\pm$ 0.5	1.7 $\pm$ 0.4	1.8 $\pm$ 0.6	1.9 $\pm$ 0.5	1.8 $\pm$ 0.5	1.7 $\pm$ 0.5	0.7

Table 2 Characteristics of oocytes in ICSI cycles

Variable	HCG-OPU ≤ 36 h ($n=264$)				HCG-OPU > 36 h ($n=349$)				<i>P</i> value
	OPU-DN ≤ 2 h ($n=141$)		OPU -DN > 2 h ($n=123$)		OPU-DN ≤ 2 h ($n=180$)		OPU-DN > 2 h ($n=169$)		
	DN-ICSI ≤ 2 h ($n=101$)	DN-ICSI > 2 h ($n=40$)	DN-ICSI ≤ 2 h ($n=75$)	DN-ICSI > 2 h ($n=48$)	DN-ICSI ≤ 2 h ($n=119$)	DN-ICSI > 2 h ($n=61$)	DN-ICSI ≤ 2 h ($n=104$)	DN-ICSI > 2 h ($n=65$)	
Total number of oocytes aspirated (mean $\pm$ SD)	717 (7.1 $\pm$ 4.5)	330 (8.2 $\pm$ 5.3)	654 (8.7 $\pm$ 5.7)	461 (9.6 $\pm$ 6.8)	805 (6.8 $\pm$ 5.7) ^a	523 (8.6 $\pm$ 5.1)	959 (9.2 $\pm$ 7.3)	608 (9.3 $\pm$ 5.0) ^a	0.0006
Metaphase II oocytes (<i>n</i>)	5.7 $\pm$ 4.0	6.5 $\pm$ 4.7	6.8 $\pm$ 4.6	7.5 $\pm$ 5.1 ^a	5.3 $\pm$ 5.0 ^{ab}	6.6 $\pm$ 4.6	6.5 $\pm$ 5.5	7.0 $\pm$ 4.1 ^b	0.004
Ratio of metaphase II oocytes/total oocytes	0.8 $\pm$ 0.2	0.8 $\pm$ 0.2	0.8 $\pm$ 0.2	0.8 $\pm$ 0.2	0.8 $\pm$ 0.2	0.8 $\pm$ 0.2	0.7 $\pm$ 0.2	0.8 $\pm$ 0.2	0.05
Cytoplasm granulation (%)	23.7 $\pm$ 37.5	25.1 $\pm$ 40.1	31.3 $\pm$ 39.2	26.1 $\pm$ 40.0	26.8 $\pm$ 39.4	26.9 $\pm$ 38.0	36.5 $\pm$ 40.6	20.0 $\pm$ 35.9	0.09
Central granulation of cytoplasm (%)	7.4 $\pm$ 24.0	14.5 $\pm$ 33.5	13.6 $\pm$ 29.0	12.0 $\pm$ 29.8	13.0 $\pm$ 30.5	9.2 $\pm$ 24.3	9.6 $\pm$ 25.0	7.3 $\pm$ 22.1	0.7
Vacuole in cytoplasm (%)	6.2 $\pm$ 20.8	4.0 $\pm$ 16.5	2.0 $\pm$ 8.7	1.3 $\pm$ 5.6	2.0 $\pm$ 10.5	5.5 $\pm$ 15.7	5.2 $\pm$ 17.3	8.8 $\pm$ 21.4	0.05
SER clustering (%)	0.6 $\pm$ 3.4	2.6 $\pm$ 15.8	0.8 $\pm$ 7.2	2.4 $\pm$ 14.6	3.2 $\pm$ 12.2	5.1 $\pm$ 19.0	2.0 $\pm$ 11.7	2.0 $\pm$ 10.7	0.2
Inclusion body (%)	20.4 $\pm$ 34.9	9.6 $\pm$ 25.0	19.9 $\pm$ 35.5	13.8 $\pm$ 29.2	15.7 $\pm$ 30.0	24.5 $\pm$ 34.2	25.8 $\pm$ 37.3	28.2 $\pm$ 37.6	0.01
Amorph oocyte (%)	2.1 $\pm$ 7.5	4.9 $\pm$ 16.9	6.5 $\pm$ 16.1	4.1 $\pm$ 9.0	5.0 $\pm$ 17.5	2.3 $\pm$ 7.0	5.9 $\pm$ 18.5	3.5 $\pm$ 15.1	0.2
Oval shaped oocyte (%)	0.8 $\pm$ 4.9	0.1 $\pm$ 0.8	1.7 $\pm$ 7.2	0.7 $\pm$ 4.8	2.4 $\pm$ 12.8	0.7 $\pm$ 3.0	0.9 $\pm$ 5.7	1.6 $\pm$ 6.1	0.7
Dark oocyte (%)	0	0	0.1 $\pm$ 1.1	0.3 $\pm$ 2.1	0.6 $\pm$ 4.9	0	0	0	0.2
Extended PVS (%)	30.7 $\pm$ 39.5	35.8 $\pm$ 42.1	26.7 $\pm$ 35.6	23.2 $\pm$ 34.3	39.8 $\pm$ 42.5	29.6 $\pm$ 38.7	39.8 $\pm$ 41.5	27.1 $\pm$ 39.1	0.05
Granulated PVS (%)	19.7 $\pm$ 36.5	23.1 $\pm$ 37.4	21.4 $\pm$ 35.0	19.5 $\pm$ 34.1	24.0 $\pm$ 38.9	22.5 $\pm$ 34.7	29.2 $\pm$ 38.6	24.2 $\pm$ 39.1	0.4
Multiple fragmented PB (%)	47.2 $\pm$ 41.7	34.5 $\pm$ 38.9	45.6 $\pm$ 39.9	37.8 $\pm$ 39.9	37.0 $\pm$ 39.7	50.0 $\pm$ 38.7	43.5 $\pm$ 40.2	50.3 $\pm$ 39.7	0.1
Thin ZP (%)	2.6 $\pm$ 14.4	7.1 $\pm$ 21.4	5.1 $\pm$ 18.7	3.0 $\pm$ 14.2	3.4 $\pm$ 17.4	5.10 $\pm$ 17.6	0.2 $\pm$ 1.6	2.5 $\pm$ 13.8	0.1
Thick ZP (%)	1.9 $\pm$ 11.6	4.4 $\pm$ 19.5	1.8 $\pm$ 12.1	2.9 $\pm$ 15.1	3.9 $\pm$ 18.5	0	0.2 $\pm$ 2.5	3.9 $\pm$ 18.5	0.4
Double fragmented PB (%)	0.4 $\pm$ 3.3	1.6 $\pm$ 9.5	0.5 $\pm$ 4.6	0.3 $\pm$ 1.5	0.7 $\pm$ 5.2	0.5 $\pm$ 3.7	1.6 $\pm$ 10.7	1.8 $\pm$ 12.5	0.9
Huge PB (%)	0 ^a	0	0 ^b	0 ^c	0.04 $\pm$ 0.38 ^d	0.18 $\pm$ 1.42	0 ^e	2.24 $\pm$ 12.78 ^{abcde}	0.002
AOQI	1.6 $\pm$ 1.1	1.7 $\pm$ 1.3	1.8 $\pm$ 1.1	1.5 $\pm$ 1.0	1.8 $\pm$ 1.1	1.8 $\pm$ 1.0	2.0 $\pm$ 1.2	1.8 $\pm$ 1.3	0.3

Table 3 Outcomes of ICSI cycles

Variable	HCG-OPU ≤ 36 h ($n=264$)				HCG-OPU > 36 h ($n=349$)				<i>P</i> value
	OPU-DN ≤ 2 h ($n=141$)		OPU -DN > 2 h ($n=123$)		OPU-DN ≤ 2 h ($n=180$)		OPU-DN > 2 h ($n=169$)		
	DN- ICSI ≤ 2 h ($n=101$)	DN- ICSI > 2 h ($n=40$)	DN- ICSI ≤ 2 h ($n=75$)	DN- ICSI > 2 h ($n=48$)	DN- ICSI ≤ 2 h ($n=119$)	DN- ICSI > 2 h ($n=61$)	DN- ICSI ≤ 2 h ($n=104$)	DN- ICSI > 2 h ($n=65$)	
Fertilization rate (%)	70.2 $\pm$ 29.1	69.3 $\pm$ 26.1	71.9 $\pm$ 23.2	72.6 $\pm$ 24.2	73.5 $\pm$ 29.9	69.2 $\pm$ 28.4	67.9 $\pm$ 29.6	71.5 $\pm$ 25.7	0.7
Cleavage rate (%)	91.1 $\pm$ 24.0	96.3 $\pm$ 16.5	93.6 $\pm$ 19.5	94.6 $\pm$ 17.6	86.2 $\pm$ 31.5	95.9 $\pm$ 15.4	92.2 $\pm$ 22.4	90.0 $\pm$ 27.8	0.5
Biochemical pregnancy rate per transfer (%)	31.3	38.2	34.4	18.6	33.0	30.0	28.6	25.9	0.6
Clinical pregnancy rate per transfer (%)	29.6	26.5	34.4	16.3	27.7	28.0	25.6	24.1	0.6

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