

# Obstetrical Outcome among Pregnancies Conceived after Preimplantation Genetic Diagnosis (PGD)

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# **Pre-implantation genetic diagnosis (PGD)**

**PGD allows patients who are carriers of single-gene disorders or carriers of structural chromosome abnormalities (balanced translocations) to select unaffected embryos for transfer, and reduce the transmission of genetic disorders to the offspring.**

# IVF cycle



OPU

ET

gonadotropin administration

gonadotropin administration

administration



pre-

treatment cycle

# Neonatal outcome after preimplantation genetic diagnosis

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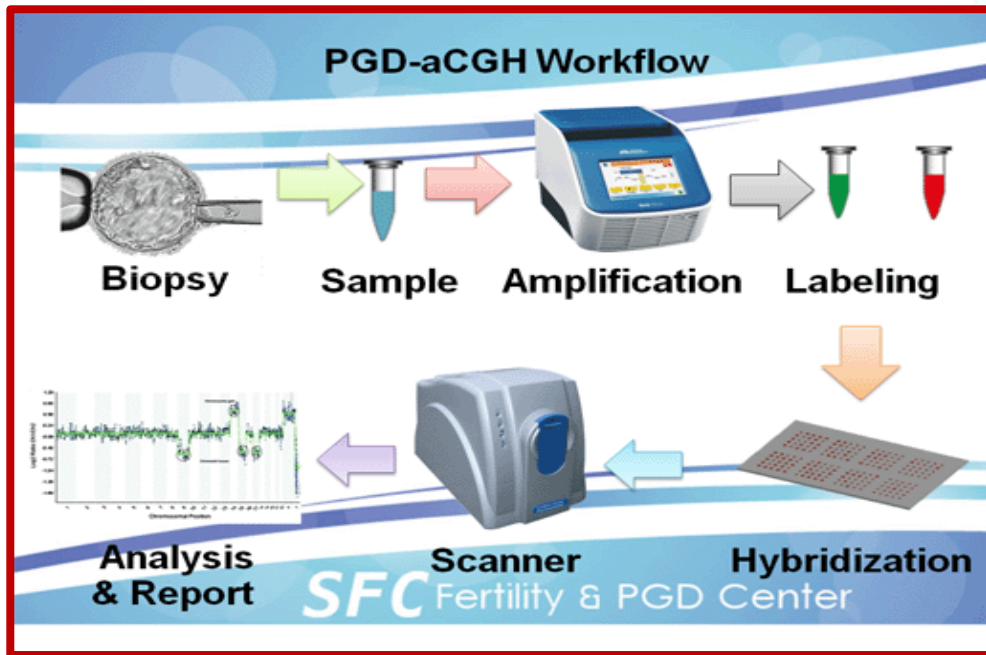
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**242 children born after PGD, 242 after ICSI and 733 after a spontaneous conception (SC).**

Birth weight, pregnancy duration, and intrauterine growth for singletons.


	PGD	ICSI	SC	P value <sup>a</sup>
Birth weight (g)	3,238 ± 514	3,062 ± 573	3,204 ± 504	.005
<2,500 (%)	7 (4.4)	19 (12)	27 (5.5)	.01
<1,500 (%)	1 (0.6)	2 (1.3)	7 (1.4)	.7
Pregnancy duration (wk)	38.8 ± 1.8	38.4 ± 2.1	39.2 ± 1.9	.005
<37 (%)	11 (7)	18 (11.4)	28 (5.7)	.05
<34 (%)	2 (1.3)	5 (3.2)	10 (2.0)	.5
<32 (%)	1 (0.6)	2 (1.3)	8 (1.6)	.6
<28 (%)	1 (0.6)	0	1 (0.2)	.5
Intrauterine growth				.001
IUGR (<10th percentile)	8 (5.1)	15 (9.5)	27 (5.5)	
Normal weight (10–90th percentiles)	124 (78.4)	125 (79.1)	421 (85.7)	
LGA (>90th percentile)	18 (16.5)	26 (11.4)	43 (8.8)	





**The biopsy and analysis are regularly done on day 3 (7-8 cells).**





Should we analyze delayed  
day 3 embryos on day 4?



# Background:

- **The biopsy for retrieved oocytes is done regularly on day 3.**
- **The lab doesn't work on Saturdays- so the biopsies of day 3=Saturday are performed on Sunday=day 4.**
- **Delayed embryos- which are not 7-8 cells on day 3 are also biopsied on day 4.**



# Methods

- **We compared lab results of the Sunday and Delayed (non-Sunday) embryos.**
- **The assumption was that the Sunday group will have more “Top Quality” embryos (compact and blastocyst) and more proper lab results-affected/unaffected.**





	n-Sunday	Sunday	t-test/proportion	
age at PGD 1st referral	31.08±4.41	32.36±4.22	0.68	
P	0.83±0.99	1±1	0.008	
G	1.61±1.81	1.72±1.77	0.596	
Fertilization %	0.68	0.68	0.66	fert/ret
% Bx	0.83	0.82	0.91	Bx/fert
% Emb>8/T total Bx	0.62	0.70	0.0003	
%TQE/Bx	0.17	0.24	0.0002	

	n-Sunday	Sunday	t-test/proportion
Unaffected	109	338	
affected	236	470	
incomplete	35	107	
PCR failure	82	185	
aneuploids	70	101	
% affected+unaffected/emb Bx	0.55	0.57	0.32
Ongoing/LB	9	43	0.54
% LB/ongoing pregnancy/emb transferred	0.08	0.12	0.21
% abnormal emb/emb Bx	0.3	0.28	0.37

# Results



**It's not a waste of time to  
give the delayed embryos  
a second chance on day 4!**



# What's next??

**700 PGD pregnancies**

**Pregnancy (maternal and neonatal)  
outcomes- .....Incomplete**



**THANK YOU**